

CPD SINGAPORE  
EDUCATION SERVICES  
PTE LTD

- ▶ Pre-School Level
- ▶ Primary Level
- ▶ Secondary Level
- ▶ A-Level

# CATALOGUE 2022

Click on the ▶ to toggle between the different levels and subjects.

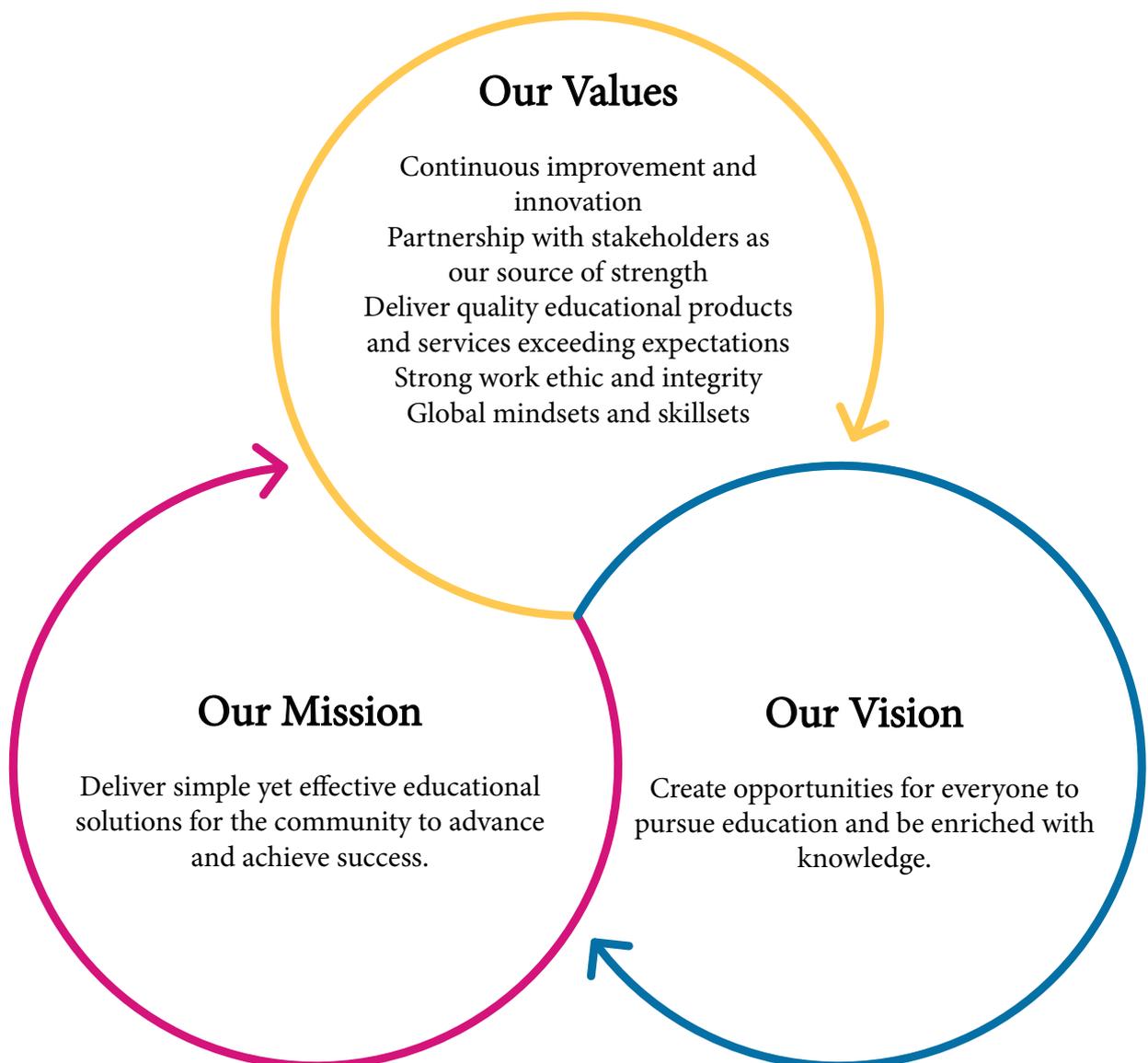
# About Us

CPD Singapore Education Services Pte Ltd is an education consultancy firm consisting of a local network of university professors, former National Institute of Education (NIE) lecturers, and ex-Ministry of Education (MOE) curriculum specialists. We embody a global nexus of like-minded organisations and individuals from diverse fields across more than 30 countries, allowing us to adopt a global approach in meeting clients' needs in the education sector.

Having published more than 400 assessment books from pre-school to pre-university levels, to having developed educational resources and comprehensive curriculums, CPD Singapore Education Services Pte Ltd is committed to transforming the field of education in the international community.

Understanding our clients' needs and safeguarding their interests are top priorities of our consultancy as we collaborate with them to achieve their vision. We are also committed to ensuring sustainability in the educational strategies and practices we introduce, as well as viability and relevancy long after the consultancy period.

## Our Vision, Mission & Values



# Global Presence

Driven by our belief and vision, we have brought education closer to individuals in more than 10 countries globally. As we move forward, we hope to reach out to more people around the world to transform the way of learning.



Australia  
Cambodia  
Canada  
China  
Germany  
Hong Kong  
India  
Indonesia  
Japan  
Korea

Malaysia  
Myanmar  
Pakistan  
Philippines  
Saudi Arabia  
Singapore  
Sri Lanka  
Thailand  
Vietnam

# ◀ Pre-School Level

▶ English

▶ Mathematics

▶ Science

▶ Chinese

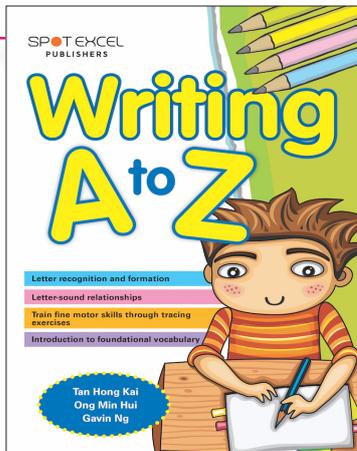
▶ Tamil

▶ Coding

▶ Parents' Guide

## Handwriting

Even in this technological, computer-literate age, good handwriting remains fundamental to our children's educational success. Help your child to develop fast, fluent and legible handwriting!

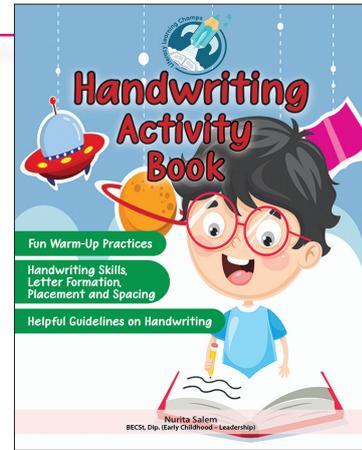


### Writing A to Z

ISBN: 9789811176937

This book helps to achieve the following:

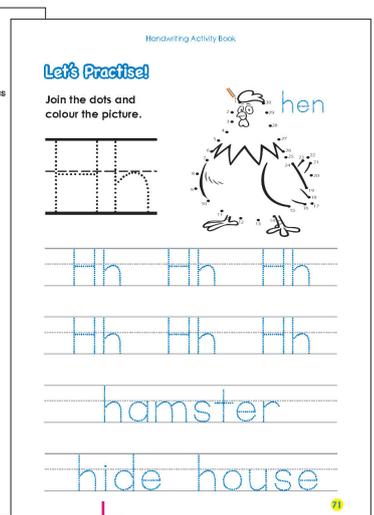
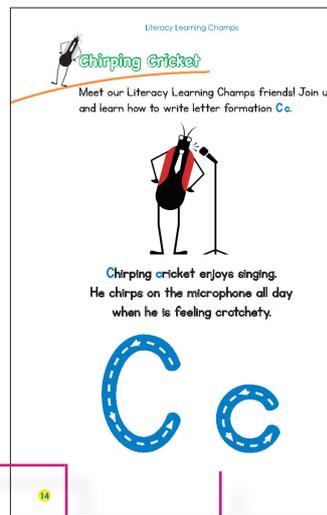
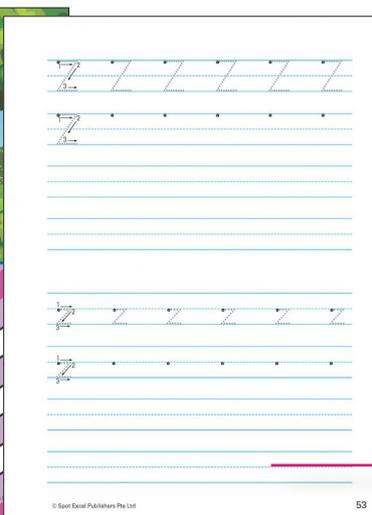
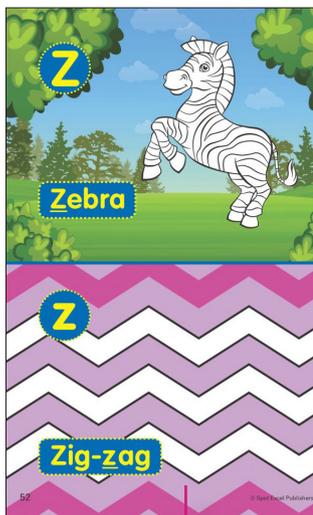
- letter recognition and formation
- letter-sound relationships
- train fine motor skills through tracing exercises
- introduction to foundational vocabulary



### Handwriting Activity Book

ISBN: 9789811463594

This book is crafted to help children learn through fun and interesting letter characters. It is the perfect start for any child to learn how to write and read comprehensively.



### Relatable Objects & Characters

Vivid and interesting pictures are included along with writing activities to allow children to learn and recognise words effectively.



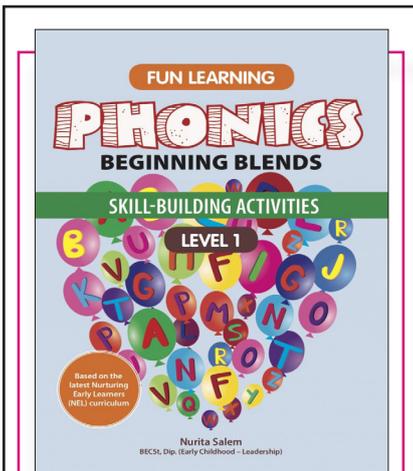
### Practices

Number guides and crucial letter formation activities - beginning to join, securing the joins, practicing speed and fluency. Includes new words to grow their vocabulary.

## Fun Learning Phonics

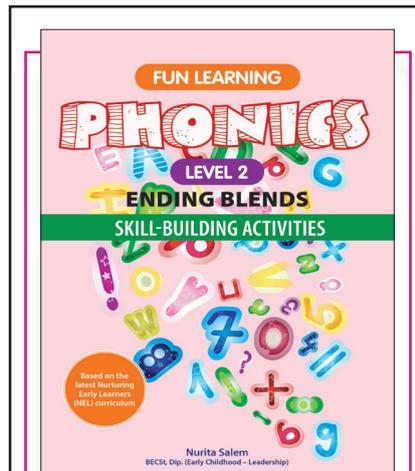
Phonics is one of the basic building blocks of the English language. It is the relationship between the sound (phonemes) and the letters (graphemes) of a word.

This series aims to introduce early learners to phonetic skills and engage them in fun and interactive hands-on activities of various skill levels. Interesting and challenging activities await learners who are looking to achieve success in preparation for their primary school education.



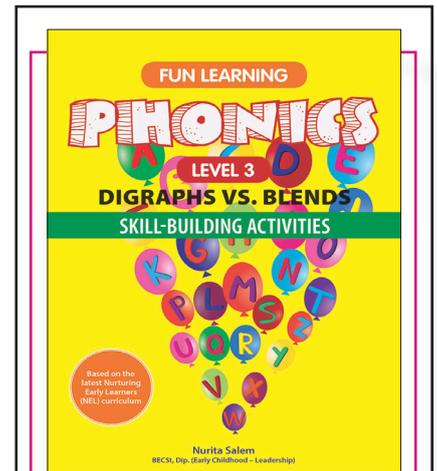
ISBN: 9789811404955

In Level 1, learners will be formally introduced to blends. These beginner activities will prepare learners for the more advanced activities in the following levels.



ISBN: 9789811417528

In Level 2, learners may need some help sounding out some of the complex sounds and understanding how some blending sounds work. This encourages reinforcement and clarification of learners' blending skills to allow learners to gain confidence for the next level.



ISBN: 9789811423024

Before starting this level, learners should already have mastered the first two levels. In Level 3, students should already be able to think of words that begin with specified blends. In this book, they will learn about digraphs. The word and concepts used in this level are more challenging than the previous two levels.

## Engaging Activities

Drawing, colouring, matching and sticker activities help children develop early critical-thinking and comprehension skills.

At higher levels, activities like Word Patterns, Search Me Blends, and Crack the Codes gently introduce children to phonics so that they are confident when they hit the classroom.

**Beginning Consonant Blends**

**bl**

black blanket  
blocks blouse

Choose the correct word. Draw a blueberry.

blood blocks  
blanket blocks

There is a \_\_\_\_\_ stain on your shirt.  
blanket blow

Let's \_\_\_\_\_ the candles.

1

**Ending Blend - nd**

Colour the pictures that end with the **nd** blend.

plant band  
pond stand

**nd**

Fill in the missing blend.

b l e \_ \_ \_ s a \_ \_ \_

2

**Knowing Your Digraphs**

**sh** "sh..sh..sh"  
**wh** wh wh wh  
**ch** choo choo  
**th**

Upper teeth on lower lip and blow air out over the bottom lip.

The tip of the tongue protrudes from the mouth a little to produce sound.

3

## Verbal Recognition

Pronunciation guide with visual aids to facilitate learning.

**My Favourite Toys**

We all have our favourite toys that we love so much! Place the correct sticker button blend in front of each word.

ane  
ain  
ateboard

4

**Digraphs vs. Blends**

What is the difference between digraphs and blends?

A consonant blend is when two or more consonants are blended together, but each sound may be heard in the blend. The most common beginning consonant blends include: **bl, br, cl, cr, dr, fr, fl, gl, gr, pl, pr, sl, sm, sp** and **st**.

Digraphs are "voiceless" combinations of two consonants. Following are examples: **sh, ch, th, wh, ph**.

5

## Engaging Topics

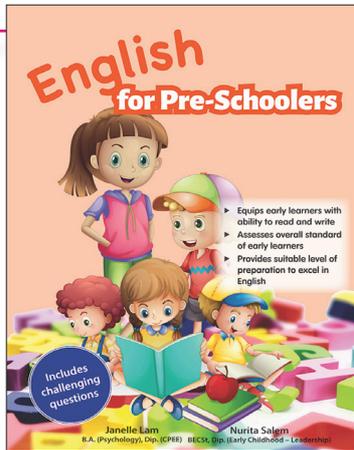
Fun and relatable topics such as "Things Around Me" and "Food and Fruits" introduce children to skills and vocabulary that are essential for developing their language abilities.

## Progressive Learning & Explanations

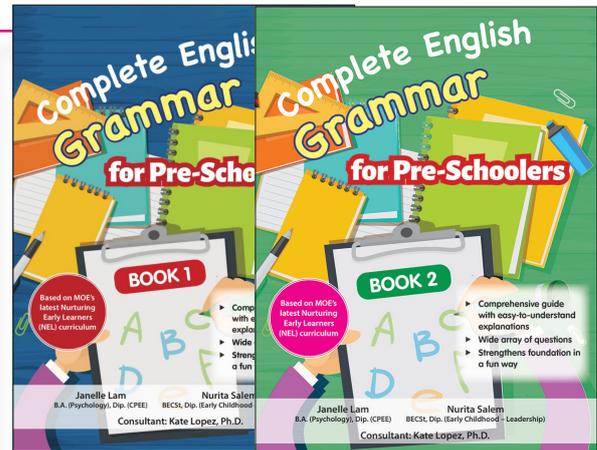
Blends and digraphs are covered progressively and practiced in the series. Clear and simple explanations are also provided to assist in learning.

## English for Pre-Schoolers

The aim of this series is to equip children who are moving into Primary 1 with the ability to read and write eloquently. They contain comprehensive assessments which can be used to assess the overall standard of the child and provide the level of preparation necessary to excel in English at the primary school level.



ISBN: 9789811423048



Book 1 ISBN:  
9789811404979

Book 2 ISBN:  
9789811497704

### Clear Learning Objectives

Clear learning objectives and recaps at the start of every chapter helps children understand the concepts and their applications within the English language.

### Instructions

This series supports studying by encompassing both the teaching and learning aspect.

### Engaging Activities

Activities stimulate children's thinking which helps develop early critical-thinking skills.

### Progressive & Graded Learning

Wide array of practice papers help children strengthen their foundation. Each practice paper comes with grading so that children's progress can be tracked.

Chapter 4 **SWIH** 

**Learning objective:**  
To learn the SW(s)IH and use them correctly while asking different questions.

**Let's start reading!** 

Who – asking about a person  
Example: Who is this beside you?

What – asking about an object  
Example: What are you doing after school? / What is the day today?

Where – asking about a place  
Example: Where are we going later?

When – asking about a time  
Example: When are we going overseas?

Why – asking for a reason for an action  
Example: Why is she shouting so angrily?

How – asking about a matter  
Example: How are you doing? / How do you feel?

**Practice Paper 1**  50

myself me her them  
he ours itself

Fill in the blanks with the correct word. Use each word only once. (7 marks)

I am Christof. My family consists of my parents, my older brother, my younger sister and myself. We own a dog. The dog is \_\_\_\_\_. It likes to play by \_\_\_\_\_. My sister likes to play with \_\_\_\_\_. My brother likes to sing \_\_\_\_\_. \_\_\_\_\_ sings very well. My siblings like to play with \_\_\_\_\_.

However, I like to play by \_\_\_\_\_. All in all, I love my family so much and I want to live with \_\_\_\_\_ for a long time.

**UNITE Connectors**

Activity 1 **Introducing the Connector, and**

**Connectors** are words that link sentences together.  
The word **and** is a connector for addition. This means that it **joins words, phrases and sentences together**.

Example I love apples. I love oranges.  
I love apples **and** oranges.

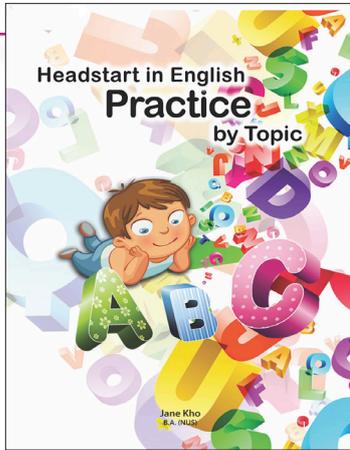
Join the two sentences together by using **and**.  
The first one has been done for you.

- I love cats. I love dogs.  
I love cats **and** dogs.
- He ate an apple. He ate a banana.  
\_\_\_\_\_
- Annie has big eyes. Annie has long hair.  
\_\_\_\_\_

60

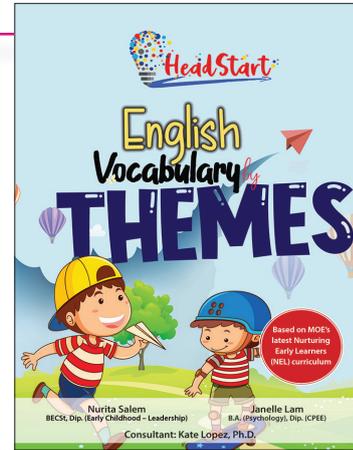
## Headstart in English

The Headstart series prepares students for primary school through exercises that encourage them to learn and develop the relevant skills and knowledge to master the English language.



ISBN: 9789811415562

Headstart in English: Practice by Topic is designed to equip students between the ages of 6 and 7 with the necessary skills to tackle English grammar and vocabulary. Students will have an enriching learning experience as they are presented with a wide array of interactive question types to encourage them to put on their thinking caps.



ISBN: 9789811415579

Headstart English: Vocabulary by Themes is designed to equip students between the ages of 6 and 7 with the necessary skills to tackle English vocabulary. Students will be presented with a wide array of fun-filled question types to provide them with an enriching learning experience.

Headstart in English - Practice by Topic

**Exercise 5**  
Write down what the boy is doing.

 B _ _ t h _ _ _ g	 E _ _ t _ _ _ g
 R e _ _ _ n _ _	 z z z

Unit 2 Food

**Section D: Draw the shapes**  
Draw circles around the pictures showing sweet food.  
Draw rectangles around the pictures showing salty food.  
Draw triangles around the pictures showing spicy food.

Hamburger	Chicken nuggets	Cupcake
Milkshake	Curry	Doughnut
Chillies	Pizza	Lollipop

Headstart in English - Practice by Topic

3. Write down 5 different living things.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. Write down 5 different types of mammals.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Headstart English: Vocabulary by Themes

**Section E: Crossword puzzle**

white	orange	yellow
Peas	red	Grapes

**Down**

1. \_\_\_\_\_ are purple.

2. Bananas are \_\_\_\_\_.

4. Tomatoes are \_\_\_\_\_.

**Across**

3. Carrots are \_\_\_\_\_.

5. \_\_\_\_\_ are green.

6. Cauliflower is \_\_\_\_\_.



### Relatable Topics

Topics such as "Daily activities" and "Living things" introduce children to vocabulary that they will use in their everyday life.

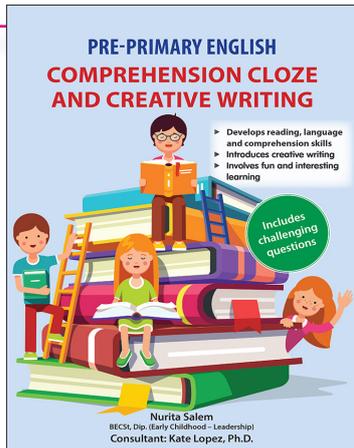


### Engaging Activities

Fun-filled exercises encourage students to apply relevant skills and knowledge.

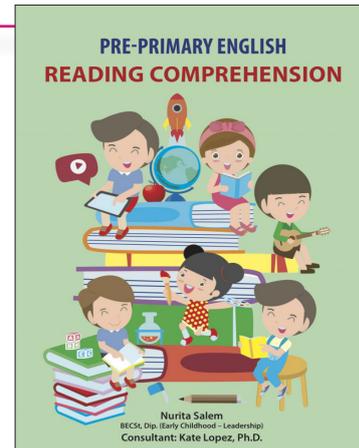
## Pre-Primary English

The Pre-Primary English series aims to introduce comprehension cloze and creative writing, develop reading comprehension skills, and improve the grammar of preschoolers through engaging activities. The wide variety of challenging exercises stimulate pre-schoolers' brain development and maximises their learning potential so as to prepare them adequately for Primary 1.



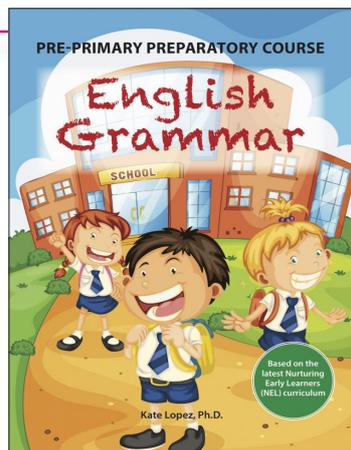
### Comprehension Cloze and Creative Writing

ISBN: 9789811197697



### Reading Comprehension

ISBN: 9789811415593



### English Grammar

ISBN: 9789811404993

## Practices

Provides additional practice for children to reinforce learning, and develop creativity.

Visual Text Comprehension practices teach students how pictures convey meaning and help children piece together the storyline. Reading the facial expression and body languages of characters as well as relating personal experiences to the setting of the story enhances comprehension.

Practice Papers

**Section C Comprehension MCQ**

Read the passage carefully.

Deepavali is celebrated by Hindus. It is also known as the Festival of Lights. Deepavali is in November this year and will be celebrated over five days.

Hindus observe this day by taking a ritual oil bath before daybreak. They do it as an act of self-cleansing. Little India in Serangoon will be decorated with beautiful bright lights throughout the Deepavali celebration.

Both locals and tourists will go to the streets of Little India to visit the bazaars selling sweets, nuts and other traditional delicacies.

The temples will be crowded too where the Hindus will come and pray by offering garlands of flowers and sweetmeat.

39

Pre-Primary English Comprehension Class and Creative Writing

**Section C Visual Text Comprehension**

Read the poster carefully. Answer the questions that follow.

**Cookie Sale!**

Date: 5<sup>th</sup> October 2018  
Friday  
Time: 12 pm to 4 pm  
Venue: 1 Main Street Avenue



Fundraising for the Cherry Orphanage Home in conjunction with children's day celebration 2018

**Types of Cookies**

- Chocolate Chips
- Oatmeal Raisins
- M&M
- Peanut Butter

**HURRY!**

Price  
\$6 per box  
\$10 for 2 boxes

For bulk orders, please e-mail us at [cookie.sale@gmail.com](mailto:cookie.sale@gmail.com)

34

**Let's Read**

Develops reading and comprehension skills.

**22 Food for Fuel**

Let's Read

Everything that is alive needs energy. All humans get the energy they need from food. Think of the human body as an amazing machine. It can do all kinds of things for us. Food is the fuel that helps keep the amazing machine running.

Plants use sunlight to make their own food. Animals are not able to do that. Some animals eat plants.

Since plants make their own food using sunlight, the sun's energy is found in plants. When we eat plants, we get more of the sun's energy than when we eat animals. That is why it is good to eat fruits and vegetables.



64

**Let's Talk**

Develops speaking skills.

Let's Talk



**Facilitative Questioning**

- What can you see in this picture?
- What do you think the girl is doing?
- What does the sun provide?
- Have you planted anything before? When?
- What do you think happens if there's no sun? Why?

27

## Learn & Do

Explanations are followed by exercises for children to apply new concepts. This helps children learn quickly and retain information more readily.

Unit 1 **NOUNS**

Type of nouns	Explanation
<b>Common nouns</b>	General name for a person, place, or thing in a class or group. Unlike proper nouns, a common noun is not capitalised unless it either begins a sentence or appears in a title. <i>Examples</i> boy, teacher, bear, pencil
<b>Gender nouns</b>	It is a form of noun classification that includes feminine and masculine categories. <i>Examples</i> lion and lioness, duke and duchess
<b>Proper nouns</b>	Names of people, places, things, organisations. Begins with a capital letter. <i>Examples</i> Mary, Ministry of Education, Statue of Liberty

Pre-Primary Preparatory Course - English Grammar

**Exercise 4**  
Underline or circle the correct option.

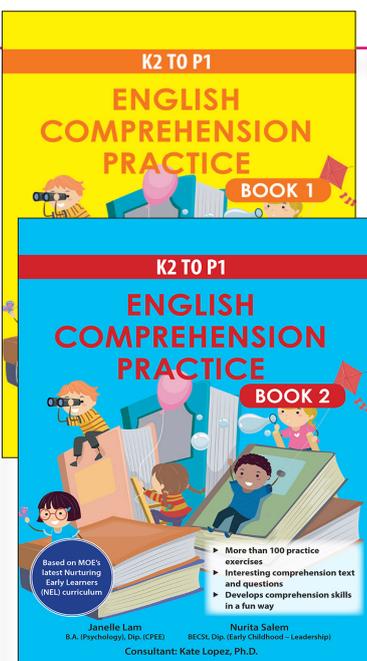
- There is still so (many / much) food left.
- The (army of / herd of) ants were carrying the bread crumb back to their nest.
- Christmas is here! There are so many (present / presents) under the Christmas tree.
- Kelly's favourite festival is (Chinese New Year / chinese new year).
- The calves are following their mother, the (cow / bull) around.
- Eric fell down. He asked for a (plasters / plaster) to cover his wound.



30

## K2 to P1 English

This series completes a child's preparation for primary school in comprehension, grammar and vocabulary. It is equipped with comprehensive features including activities and practice questions which aim to stimulate greater interest in learning and improve children's knowledge of language through real-world contexts.

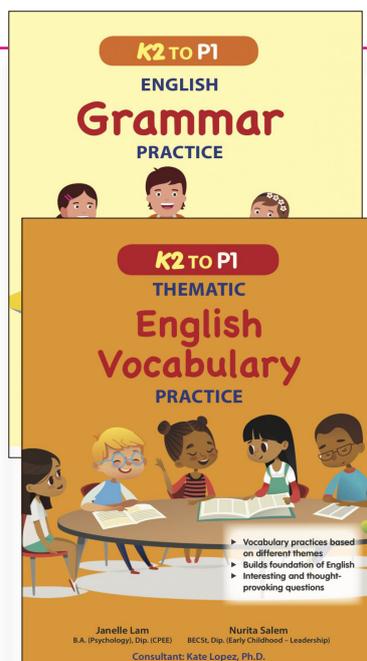


The image shows two book covers for 'English Comprehension Practice'. Book 1 has a yellow background and Book 2 has a blue background. Both covers feature illustrations of children reading and a list of features.

**English Comprehension Practice**

Book 1 ISBN: 9789811199639

Book 2 ISBN: 9789811401183

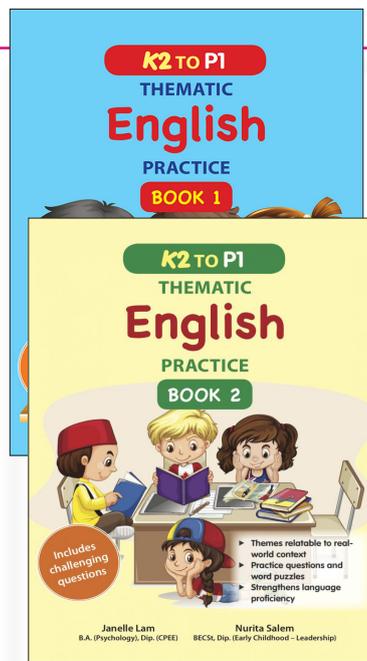


The image shows two book covers for 'Thematic English Practice'. The Grammar book has a yellow background and the Vocabulary book has an orange background. Both covers feature illustrations of children at a table and a list of features.

**Thematic English Practice**

Grammar ISBN: 9789811415586

Vocabulary ISBN: 9789811409424



The image shows two book covers for 'Thematic English Practice'. Book 1 has a blue background and Book 2 has a yellow background. Both covers feature illustrations of children reading and a list of features.

**Thematic English Practice**

Book 1 ISBN: 9789811197680

Book 2 ISBN: 9789811419201

## Captivating Storylines

Storylines with interesting characters set in familiar contexts help children infer meanings of new words and enhance comprehension independently.

### Practice 27 Jane and Her Blocks

Jane likes to play with big blocks. She has a big box of blocks at home. Whenever she is free, she would play with the blocks. Jane makes many things using the blocks. From castles to houses and even trains. Yesterday, Jane made a tall castle.



Underline the correct answer.

- Jane likes to play with ( big / small ) blocks / toy cars .
- She has a ( small / big ) box of blocks at home.
- Jane makes castles, houses and ( trains / trains ) using the blocks.
- Yesterday, Jane made a tall ( tower / castle ) .

### Practice 41 A Day at Adventure Cove

It is the first day of the school holidays. Fanny and her family decide to go to Adventure Cove. Fanny is excited as it is her first time going to a water park.

Fanny and her family are the first to enter Adventure Cove. They change into their swimming costumes in the changing room. There are many things to do at Adventure Cove. There are water slides, play pools for children and even a wave pool.

Fanny wants to try going down the water slide but is afraid to do so alone. Her father decides to go with her. Fanny sits on her father's lap and they go down the water slide on a big float.

After trying the water slide, Fanny and her family decide to try the other attractions at Adventure Cove.

Choose the correct answer (a, b or c). Write it in the brackets.

- Where did Fanny and her family go?  
(a) Adventure Cove  
(b) Disneyland  
(c) Universal Studios ( )

### Theme 1 All about me

#### Section A Introduce yourself

Draw a portrait of yourself in the space and fill in the blanks.

My name is \_\_\_\_\_  
I am \_\_\_\_\_ years old.  
My favourite colour is \_\_\_\_\_  
During my free time, I love to \_\_\_\_\_

### Unit 2 At the beach



#### Vocabulary list

Word	Meaning
surfing	A sport where an individual rides a wave to the shore using a board or small sail
swimming	An activity that people can do at the beach or a swimming pool

## Relatable Topics

Everyday topics such as "All about me" and "At the beach" introduce children to vocabulary that they can easily apply in other contexts.

## Recap Components

This series supports learning by encompassing the elements of teaching, reinforcement and practice within each chapter.

### Section B Punctuation

#### Let's Recap!

Full stop (.)	Marks the end of a sentence. Ends any sentence that is not a question or an exclamation.
Question mark (?)	Marks the end of a question.
Exclamation mark (!)	Used at the end of a word or sentence that shows the feelings of the speaker.

Read each sentence. Fill in the blanks with the correct punctuation.

- Wow  Look at that colourful rainbow in the sky!
- Auntie Anne bought some red apples from the market
- Did you see my pink pouch anywhere
- Ouch  I got bitten by a red ant.
- If you mix red and yellow together, you will get orange

## Making Learning Fun

Drawing, colouring and matching activities engage childrens' interest and develop early critical-thinking and comprehension skills. Word search, crossword puzzles, jumbled words, and spelling activities further help to develop their vocabulary.

### Theme 11 Pets

#### Section A: Animals we keep as pets

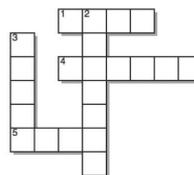
Which animals can we keep as pets? Circle them.



#### Section H: Crossword puzzle

Solve the puzzle by filling in the boxes using the clues provided.

tooth reading crow family hymn



#### Clues

- Across**
- Which word has three consonants?
  - Which word has two different vowels?
  - This word has no vowels.
- Down**
- This word has three different vowels.
  - This word contains the same vowel twice.

#### Section C: Connect the dots

Draw a line to match the words that rhyme. word can only be matched once.

Hide	•	•	Crane
Train	•	•	Groan
Stone	•	•	Lied
Chair	•	•	Hum
Sum	•	•	There

#### Section D: Sort the words

Write the words given in the box below in the correct circle. Each word can only be used once.

key flower rag face  
flag trolley power lean

1. Words that rhyme with **me**

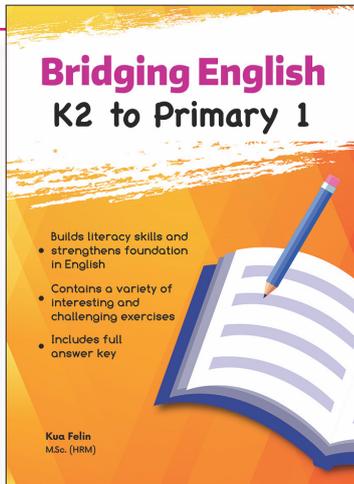
3. Words that rhyme with **drag**

2. Words that rhyme with **shower**

4. Which word rhymes with **race**?

5. Which word rhymes with **queen**?

## Bridging English



ISBN: 9789811490088

Bridging English: K2 to Primary 1 is specially designed for students to learn, practise and improve their English language skills in a simplified way. This book covers grammar, vocabulary, sentence structuring, spelling and reading. Students who are currently in kindergarten will learn new vocabulary words and grammar usage. As such, this can vastly improve their English language aptitude. There are simple illustrated stories and passages for students to practise their pronunciation and reading skills. Answers to all exercises are included as well. Through these exercises, students will have fun, while learning the English language in the most interesting way possible.

**Unit 2**  
**To Town**  
By Joy Cowley

I will go to town on my bulldozer,  
my big yellow bulldozer.  
Brr-rrr, brr-rrr,  
all the way to town.



I will go to town in my fire-engine,  
my big red fire-engine.  
Oooooo-aaaaaah-oooooo-aaaaaah,  
all the way to town.



17

**The Hungry Giant**

Past continuous tense	Present perfect tense	Simple future tense
He / She / I was stamping. We / They / You were stamping.	He / She has stamped. We / They / You / I have stamped.	He / She / We / They / You will stamp. I shall stamp.
He / She / I was beating. We / They / You were beating.	He / She has beaten. We / They / You / I have beaten.	He / She / We / They / You will beat. I shall beat.
He / She / I was hitting. We / They / You were hitting.	He / She has hit. We / They / You / I have hit.	He / She / We / They / You will hit. I shall hit.
He / She / I was putting. We / They / You were putting.	He / She has put. We / They / You / I have put.	He / She / We / They / You will put. I shall put.
He / She / I was holding. We / They / You were holding.	He / She has held. We / They / You / I have held.	He / She / We / They / You will hold. I shall hold.
He / She / I was kicking. We / They / You were kicking.	He / She has kicked. We / They / You / I have kicked.	He / She / We / They / You will kick. I shall kick.
It was squeaking.	It has squeaked.	It will squeak.

139

### Easy to Understand

Skills and concepts are taught with simple illustrated passages and table formats for easy reading and understanding.

### Challenging Exercises

A variety of exercises will challenge students and push them to develop their skills. Full answer keys to exercises are also provided.

**Mrs Wishy-Washy**

Let's try the exercises!

**Exercise 1**  
Read the **common nouns** and **proper nouns** and them to the correct bubbles.

table   doctor   flower

Common nouns   Proper nouns

Mr Wilson Lee   Mrs Sandra Ong   En

computer   teacher   Singapore

10

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**Ants in a Hurry**

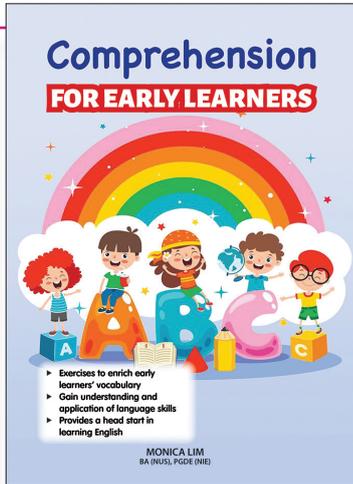
**Exercise 9**  
Fill in the blanks with the words in the box.

market   cinema   beach   bus stop   hospital  
bakery   bookshop   laboratory   post office   salon

- Butchers and fishmongers sell their meat and fish in a \_\_\_\_\_.
- There are many doctors and nurses in a \_\_\_\_\_.
- The movie ticket seller gives us our tickets in a \_\_\_\_\_.
- Scientists work in a \_\_\_\_\_.
- Hairdressers work in a \_\_\_\_\_.
- A baker works in a \_\_\_\_\_.
- Mary is selling books in a \_\_\_\_\_.
- The bus driver stops at every \_\_\_\_\_.
- Lifeguards can save people from drowning at the \_\_\_\_\_.
- The postman collects our letters and parcels from the \_\_\_\_\_.

91

## Comprehension for Early Learners



ISBN: 9789811803697

This book is written to give kindergarten students a head start in their journey of learning English. By completing the comprehension exercises, they will not only be able to enrich their vocabulary banks, they will also be able to gain understanding and application skills. The exercises are also tailored to match the standards of kindergarten students who are keen on advancing their English and being ahead of their peers.

### Comprehension Exercises

40 comprehension exercises with short and simple passages for students to hone their comprehension skills.

Comprehension for Early Learners

**Practice 1**  
Read the passage carefully.

Josh lives with his grandparents in the countryside. He loves the pumpkins that grow in the large patch behind the house. Every three months, he pleads with his grandparents to allow him to help them harvest the fully-grown pumpkins. Although his grandparents do not want him to do it himself, they always agree to his request.

After harvesting the pumpkins, Josh watches his grandparents make pumpkin paste, pumpkin pies, pumpkin soup and pumpkin porridge. His only job is to taste the food. Josh likes to eat pumpkins, so he does not complain.

Tick the correct answers.

1. Josh lives with his 

cousins	<input type="checkbox"/>
grandparents	<input type="checkbox"/>
parents	<input type="checkbox"/>

2. Josh lives in the 

jungle	<input type="checkbox"/>
kampong	<input type="checkbox"/>
countryside	<input type="checkbox"/>

3. Josh wants to help 

harvest	<input type="checkbox"/>
water	<input type="checkbox"/>
cook	<input type="checkbox"/>

 the pumpkins.

4. One food that his grandparents make is 

rice	<input type="checkbox"/>
jelly	<input type="checkbox"/>
paste	<input type="checkbox"/>

 pumpkin.

5. Josh's job is to 

mash	<input type="checkbox"/>
taste	<input type="checkbox"/>
store	<input type="checkbox"/>

 the food.

### Fill in the Blanks

35 fill in the blanks practices to further build students' understanding and application of vocabulary.

### Answer Key

Answers are provided to check accuracy of understanding.

Comprehension for Early Learners

**Practice 1**  
Read the passage carefully and answer the questions.

On a breezy Sunday morning, Cheryl's parents decided to have a family picnic at the beach. They packed sandwiches, canned drinks and fruits into two big baskets before setting off. Arriving at the beach, they chose a cool spot under a coconut tree to lay their picnic mat. Cheryl and Charlie helped to spread the food out on the cloth. Before long, everyone tucked into the delicious food and started chattering happily. A few hours later, it was time for them to leave. Cheryl and Charlie were both reluctant. They had enjoyed themselves very much. Seeing their sad faces, their parents promised to bring them to the beach again the following week. Both children cheered in glee.

**Section A - Basic Comprehension Exercises**

- When did Cheryl and her family go to the beach?  
\_\_\_\_\_
- What did they pack for the picnic?  
\_\_\_\_\_
- Where did they choose to lay their picnic mat?  
\_\_\_\_\_
- Who helped to spread the food out on the cloth?  
\_\_\_\_\_

**ANSWER KEY**

**SECTION A**

**Practice 1**

- Cheryl and her family went to the beach on a breezy Sunday morning.
- They packed sandwiches, canned drinks and some fruits for the picnic.
- They chose a cool, shady spot to lay their picnic mat.
- Cheryl and Charlie helped to spread the food out on the cloth.
- Their parents promised to bring them to the beach again the following week.

**Practice 2**

- John and Jim are brothers.
- They enjoy playing with toy trains.
- John's toy train broke into two and could not be fixed.
- She heard John crying.
- Jim felt guilty for stepping on John's toy train.

**Practice 3**

- Hannah likes Furry because she is cute and playful.
- Hannah brings Furry to the nearby park for a walk every day.
- Furry is attracted to butterflies.
- Hannah bathes Furry two times every day.
- Hannah's mother is pleased with her because she takes good care of her pet.

**Practice 4**

- Nicole likes to eat fruits and vegetables, unlike most children.
- Nicole likes to eat apples the most.
- Nicole's favourite vegetable is broccoli.
- Nicole likes eating broccoli because it is crunchy and can even be eaten raw.
- She knows that chocolates and sweets will cause tooth decay.

**Practice 5**

- Tim's grandparents, close relatives and friends are invited to his birthday party.
- The house is decorated with balloons and streamers.
- The house becomes lively after people arrive.
- Tim blows out all the candles on his birthday cake after everyone sings him a birthday song.
- Tim feels very grateful for the celebration.

**Practice 6**

- Katie asks questions whenever she has something that she does not know.
- Katie spends a lot of time with her teachers.
- Katie finishes off her homework before watching the television.
- Katie enjoys reading books because she likes imagining herself as a character in the book.
- Katie goes to sleep at 8 o'clock.

**Practice 7**

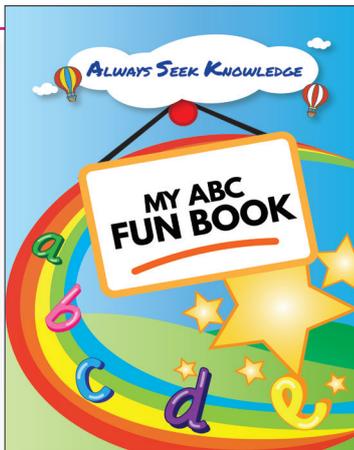
- Lisa wants to dress up as a princess.
- Lisa's dress is pink.
- Lisa is happy about her costume.
- She is very pleased that everyone says she looks extremely pretty.
- Lisa thanks her mother for the wonderful costume that she made her.

**Practice 8**

- People are chattering happily and taking pictures of everything.
- Sam sees a kangaroo with a pony in her picture.
- He shows in delight and runs off to take a picture with the mother kangaroo.
- Simon shudders in fear and walks away from it.
- The bears look like pandas.

## Always Seek Knowledge - Fun Learning

This series of preschool books is specially written to help children learn in a fun and creative way. The books come equipped with flash cards of pictures and words that will help enhance learning. The flash cards and activities in these books are designed to help children recognise, recall and review through visual and sound stimulation. With the guidance of parents, teachers and tutors, it is hoped that children will acquire the necessary skills for each level before proceeding to the next.

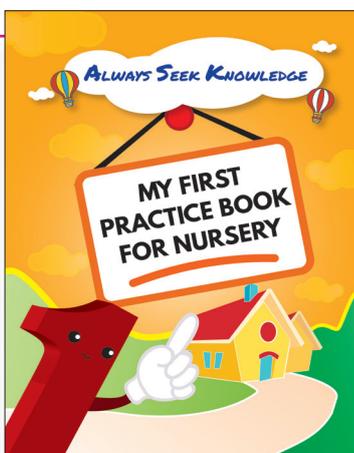


**My ABC Fun Book**

ISBN: 9789811498169

This book is written to help children learn the alphabet in a fun and creative way. Each activity comes equipped with pictures and words that will also help enhance vocabulary. The exercises are designed to help children recognise, recall and review through writing, listening, matching and colouring activities.

<p>1</p>	<p>Draw an apple.</p> <p>apple</p> <p>Colour the picture that begins with 'a'</p> <p>aeroplane</p> <p>book</p> <p>2</p>	<p>Flash cards - Read, Recognise and Review Cut and paste on a piece of cardboard.</p> <table border="1"><tr><td>apple</td><td>aeroplane</td></tr><tr><td colspan="2">ant</td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table> <table border="1"><tr><td>boy</td><td>ball</td></tr><tr><td colspan="2">balloon</td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table> <p>3</p>	apple	aeroplane	ant						boy	ball	balloon					
apple	aeroplane																	
ant																		
boy	ball																	
balloon																		

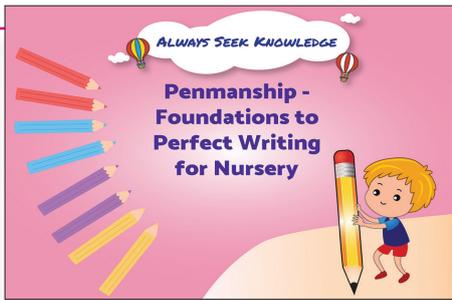


**My First Practice Book  
for Nursery**

ISBN: 9789811498152

This book is written to help children learn handwriting skills in a fun and creative way. Each letter of the alphabet comes with tracing activities to guide children on the proper steps to writing complete words. The activities are designed to help children recognise, recall and review through writing, listening, matching and colouring.

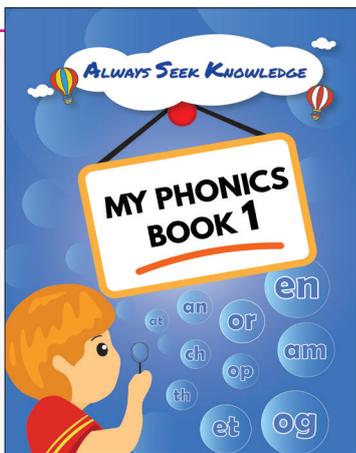
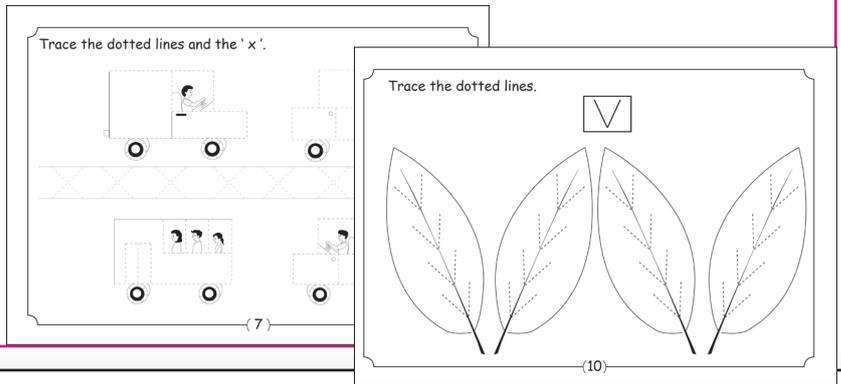
<p>Trace and write.</p> <p>1</p>	<p>Read, Recognise and Review. Flash card game: Cut and paste on cardboard.</p> <table border="1"><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table> <table border="1"><tr><td>apple</td><td>ball</td></tr><tr><td>cat</td><td>dog</td></tr><tr><td>elephant</td><td></td></tr></table> <p>2</p>							apple	ball	cat	dog	elephant	
apple	ball												
cat	dog												
elephant													



**Penmanship - Foundations to Perfect Writing for Nursery**

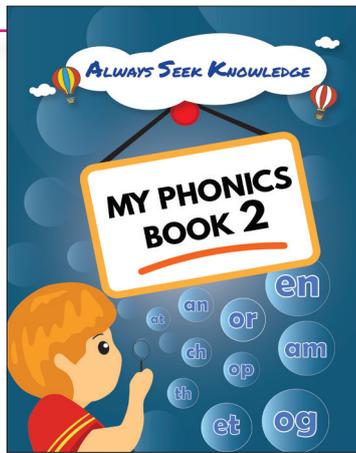
ISBN: 9789811498237

This book introduces children to the basics of writing.



**My Phonics Book 1**

ISBN: 9789811498176



**My Phonics Book 2**

ISBN: 9789811455513

These books help children on their reading journey through phonics. The activities in these books teach children how to identify letter sounds, how these sounds are represented alphabetically, and how to sound them. These books are essential for children to become successful readers and spellers in the early years of schooling and beyond.

Day: \_\_\_\_\_ Date: \_\_\_\_\_

Read and say the words.

an

4

Day: \_\_\_\_\_ Date: \_\_\_\_\_

Cut out the words on page 39. Paste the correct word below each picture.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Day: \_\_\_\_\_ Date: \_\_\_\_\_

Colour all the pictures that rhyme with 'can' red. Colour all the pictures that rhyme with 'fat' yellow.


Book 1

Day: \_\_\_\_\_ Date: \_\_\_\_\_

Fill in the blanks and read the sentence aloud.

A \_\_\_\_\_ on a \_\_\_\_\_.

A \_\_\_\_\_ on a \_\_\_\_\_.

4

Day: \_\_\_\_\_ Date: \_\_\_\_\_

**Creative Writing**  
Describe the pictures. Use the words in the box to help you.

fat big long small short

a _____	a _____
a _____	a _____

7

Day: \_\_\_\_\_ Date: \_\_\_\_\_

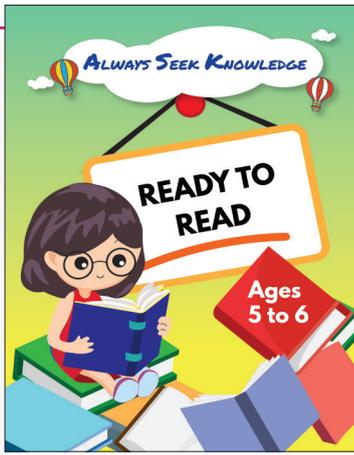
Can you form sentences with the words on the previous page? You can include words not found on the previous page.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

10

Book 2

More challenging activities.



## Ready to Read

ISBN: 9789811498183

This book introduces children to reading readiness skills. These skills include the ability to distinguish similarities and differences, to recognise letters of the alphabet and the sounds that they stand for. With these basic skills, the children will be ready to progress to more advanced language skills.

Day: \_\_\_\_\_ Date: \_\_\_\_\_

Look at the pictures and the words. Place the words in alphabetical order.









1.
2.
3.
4.
5.
6.

6

Day: \_\_\_\_\_ Date: \_\_\_\_\_

Word Box of Cc and Dd. List more words in the boxes.

cat  
can  
cap  
cup

dog  
doll  
draw  
drum

Write the word for each picture.

1.  \_\_\_\_\_
2.  \_\_\_\_\_
3.  \_\_\_\_\_
4.  \_\_\_\_\_

9

Day: \_\_\_\_\_ Date: \_\_\_\_\_

Look at the pictures carefully. Say the word and write the first letter of each word. Copy the word below.

  
 \_ c \_ o w  
 COW

  
 \_ a n  
 \_\_\_\_\_

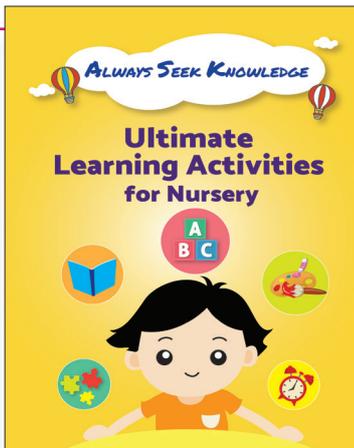
  
 \_ r a s s  
 \_\_\_\_\_

  
 \_ a r  
 \_\_\_\_\_

  
 \_ o r s e  
 \_\_\_\_\_

  
 \_ e l l y  
 \_\_\_\_\_

10



## Ultimate Learning Activities for Nursery

ISBN: 9789811498244

This book supplements a child's early learning. The activities in this book help build the framework for self-development, from cognitive skills to emotional and social development. This book emphasises the importance of parent-child interaction through many fun activities which include writing, matching and colouring.

### Developmental Focus

Each activity has a pedagogical focus and builds multiple intelligences.

### Did You Know?

Fun facts are included for added knowledge.

How old are you?

How old is Jacky?    How old is Jenny?




Do you know how old you are?  
Mummy has made a big birthday cake for you!  
Let's draw in the candles to show how old you are.

I am \_\_\_\_\_ years old.

*Did you know?*

We all grow older by one year on every birthday. The number of candles on the birthday cake will tell people how old you are.

3

### My handprints and footprints!

1. Place your hand/foot on the paper and draw the outline of your hand/foot.
2. Or you may paint over the palm of your hand/foot before pressing it onto a piece of paper.

*Let's try this!*

You can make wonderful pictures with handprints. Press two painted handprints on a piece of paper side by side and you can see a butterfly!

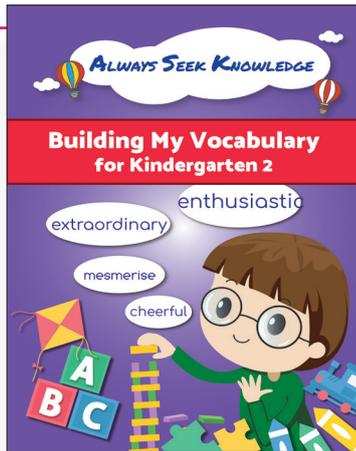


### Let's Try This!

Additional activities to make learning more fun.

## Always Seek Knowledge - Fundamentals of English

This series is meticulously crafted to create a strong foundation of the English language in children through a variety of engaging activities. Each book in this series covers a different aspect of the English language. This series aims to equip students with a strong language foundation which is essential for developing proficiency in the English language.



**Building My Vocabulary  
for K2**  
ISBN: 9789811498190

This book helps children develop a fundamental repertoire of vocabulary. The exercises are designed to assist children in their language development by introducing new words that will improve their reading and writing skills. The exercises are based on topics relating to what they see, know or experience in everyday life.

**My Family (1)**  
Hi, everybody, I am Tom.  
Let me introduce my family to you.

This is my father and my mother.

This is my brother, Pat, and my sister, Pam.

This is my baby sister, Tammy, and I. They are my nuclear family.

Day: \_\_\_\_\_ Date: \_\_\_\_\_

Fill in the correct word.

- My \_\_\_\_\_ and my \_\_\_\_\_ are my parents.
- Pat is my \_\_\_\_\_.
- My \_\_\_\_\_, Tammy, is sleeping in the cot.
- My \_\_\_\_\_, Pam, loves to swim.
- I enjoy playing with my \_\_\_\_\_ and \_\_\_\_\_.
- I love my \_\_\_\_\_ very much.

Day: \_\_\_\_\_ Date: \_\_\_\_\_

**Activities A Family Can Enjoy Together**  
Name the activities in the empty boxes below.

swimming   cycling   badminton  
travelling overseas   picnic  
visiting the zoo   watching television

My family and I enjoy \_\_\_\_\_ together.

Note: The child can list any activity he/she enjoys if they are not listed above.



**Building My Grammar  
for K2**  
ISBN: 9789811498206

This book introduces children to the fundamentals of grammar. They will learn parts of speech, tenses, plural and singular forms of words, gender and other aspects of grammar through a series of exercises. This book aims to equip students with a strong foundation in grammar which is essential for constructing well-structured sentences.

Day: \_\_\_\_\_ Date: \_\_\_\_\_

**Nouns**  
Nouns are names of people, animals, places things.  
Circle the nouns in the sentences.

- Mr Tang is a policeman.
- Mingli goes to the stadium for a jog.
- The crocodile is in the river.
- Apples are sweet but lemons are sour.
- Aunt May is cooking in the kitchen.
- Lily is sewing a dress.

Day: \_\_\_\_\_ Date: \_\_\_\_\_

**Helping Verbs**  
is   are   am

Read the sentences carefully.  
Underline the correct word.

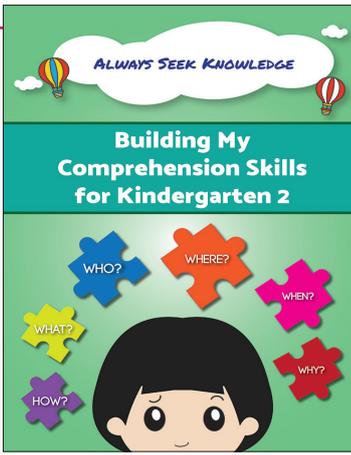
- My friend ( is / are ) on the swing.
- The children ( is / are ) playing with their pets.
- This skirt ( is / are ) too short for me.
- I ( is / am ) going for a jog.
- Henry and Harry ( is / are ) brothers.

Day: \_\_\_\_\_ Date: \_\_\_\_\_

**Helping Verbs**  
is   are   am

Read the words carefully.  
Make as many sentences as you can with the correct verb.

The children	is	playing with a ball.
My sister	are	sweeping the floor.
I	am	eating ice cream.
The girls	are	running a race.
Tom	is	



**Building My Comprehension Skills for K2**  
 ISBN: 9789811498213

This book offers a variety of engaging exercises for children to practise their reading and writing skills. Exercises are crafted to help children think and answer critically, gain exposure to different forms of texts, and expand on their literacy skills. Listening and visual exercises are included to help children develop all elements of comprehension.

Day: \_\_\_\_\_ Date: \_\_\_\_\_

**An Old Lady**  
 Look at the picture.  
 Read the sentences carefully.  
 Write 'True' or 'False' in each box.

- The woman is old.
- The woman has strong legs.
- She uses a walking stick.
- Her grandson is beside her.
- They are walking sadly together.

Day: \_\_\_\_\_ Date: \_\_\_\_\_

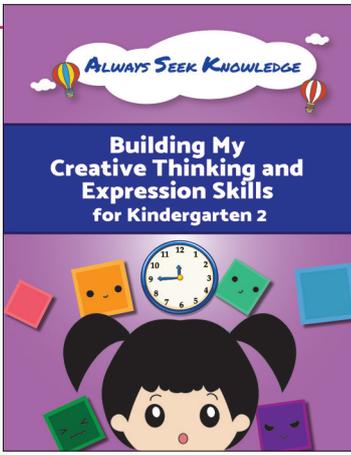
**Monkeys**  
 Look at the picture.  
 Read the story and write the correct answers for every sentence.

- There \_\_\_\_\_ many \_\_\_\_\_ in the \_\_\_\_\_  
 ( is , are ) ( mice , monkeys )  
 ( trees , three )
- Some are \_\_\_\_\_ ( drinking , eating ) ( bananas , coconuts )  
 some are not.
- They \_\_\_\_\_ to swing from tree \_\_\_\_\_ to \_\_\_\_\_  
 ( likes , like ) ( two , to )
- They are a \_\_\_\_\_ lot.  
 ( helpful , mischievous )

Day: \_\_\_\_\_ Date: \_\_\_\_\_

**Describing A Picture 1**  
 Look at the pictures and read the sentences carefully.  
 Tick (✓) the sentence that describes the picture.  
 Copy the correct sentence on the lines provided.

- Sue is playing on the swing.  
 Sue is playing on the slide.
- Mr Lim is driving a bus.  
 Mr Lim is driving a car.
- Pauline and her family are having dinner in a restaurant.  
 Pauline and her family are having dinner at home.
- Sarah is laughing because she had a bad dream.  
 Sarah is crying because she had a bad dream.



**Building My Creative Thinking and Expression Skills for K2**  
 ISBN: 9789811498220

This book is a fun and engaging exercise book that develops a child's imagination and critical thinking skills. Hands-on activities offer children a chance to look beyond their books to come up with their own creations, broadening their thinking and encouraging creative expression.

Day: \_\_\_\_\_ Date: \_\_\_\_\_

**Riddles 1**  
 Read the sentences and guess the answer.  
 Write the answer and draw each picture in the box provided.

- I can fly.  
 But I have no wings.  
 What am I?  
 I am \_\_\_\_\_
- I have four legs.  
 But I cannot walk.  
 What am I?  
 I am a \_\_\_\_\_
- I am yellow.  
 I can be long or short.  
 Monkeys love me very much.  
 What am I?  
 I am a \_\_\_\_\_

Day: \_\_\_\_\_ Date: \_\_\_\_\_

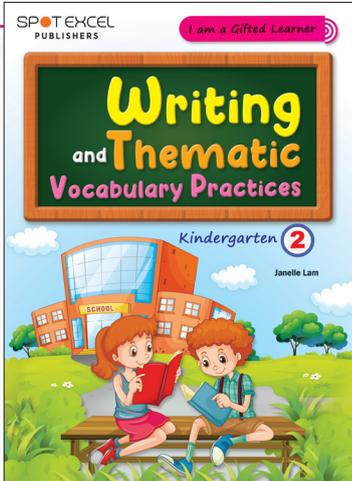
**Break The Code 1**  
 Use the Number Code to find the answer. Write your answer on the line.  
 Draw the picture in the space provided.

1	2	3	4	5	6	7
Aa	Bb	Cc	Dd	Ee	Ff	Gg
8	9	10	11	12	13	14
Hh	Ii	Jj	Kk	Ll	Mm	Nn
15	16	17	18	19	20	21
Oo	Pp	Qq	Rr	Ss	Tt	Uu
22	23	24	25	26		
Vv	Ww	Xx	Yy	Zz		

Day: \_\_\_\_\_ Date: \_\_\_\_\_

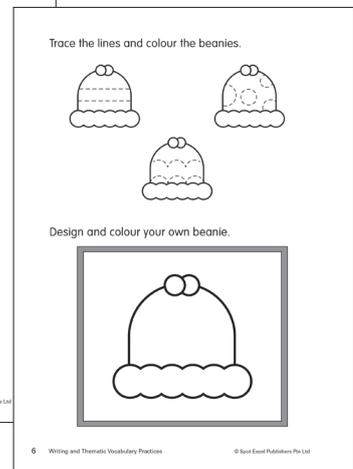
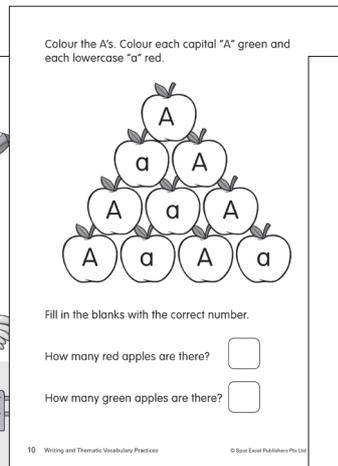
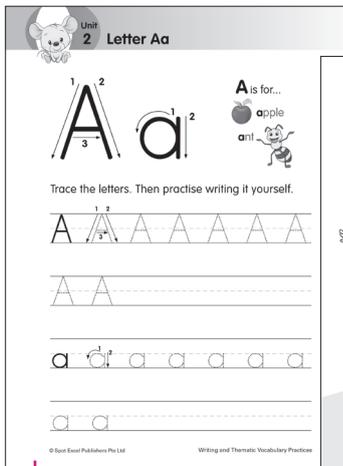
**What Can This Be?**  
 Look at what is drawn below.  
 Decide what you want this picture to be and draw it.  
 Write two sentences about your drawing.

## Writing and Thematic Vocabulary Practices



ISBN: 9780811805707

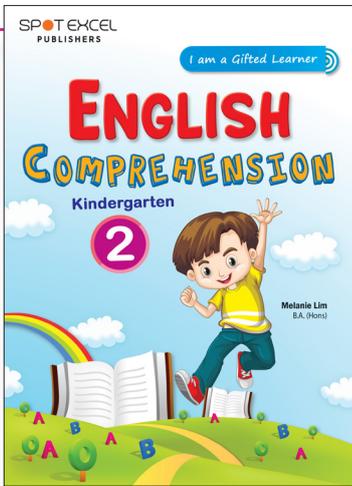
Writing and Thematic Vocabulary Practices provides pre-schoolers with an all-rounded education. Following the Nurturing Early Learners Curriculum Framework, fun-filled activities covering different themes commonly taught in pre-schools await the inquisitive child. Each of these activities helps to build the child's foundation in early literacy skills, establishing basic vocabulary, handwriting and reading.



### Fun-filled Activities

A variety of activities help children learn to read and write in a fun manner.

## English Comprehension



ISBN: 9789811805066

English Comprehension (Kindergarten 2) is designed to help pre-schoolers hone their comprehension skills before they enter primary school. The series of comprehension passages covers a range of topics so that pre-schoolers are exposed to a variety of content and vocabulary. The exercises aim to give students the confidence to tackle different types of questions.

**PRACTICE 01** Read the passage and answer the questions.

It was a bright and sunny Sunday morning. Michael's parents were going to take him to Sentosa. It was Michael's first time there. He was excited to ride the cable cars and play on the beach. Michael's father packed some food for them to have a small picnic on the beach. He prepared some sushi, sandwiches and a large bottle of juice. His mother prepared some chicken nuggets and sausages. Michael was very excited because he knew it was going to be a great day ahead.

1. What day was it?
2. Where was Michael going?
3. Who was going with Michael?
4. What was Michael excited to do?
5. What did Michael's father prepare for the picnic?
6. What did Michael's mother prepare for the picnic?
7. How was Michael feeling?

Read the passage and answer the questions.

It was two weeks before Christmas. Xena and Shawn planned to go shopping for Christmas presents together with their brother Shawn. It was their first time going shopping for Christmas presents together. Xena is ten years old this year and Shawn is eight years older than Xena. Shawn often takes his sister out as his parents are often busy working overseas and do not have much time to take care of them. Today, they planned to go to Orchard Road to shop for presents. They planned to buy a total of five presents for their father, mother, grandfather, grandmother and uncle.

1. Who is Shawn?
2. What were the two siblings planning to do?
3. How old is Xena?
4. How old is Shawn?
5. Why does Shawn often take his sister out?
6. Where did the two siblings plan to go?
7. How many presents were they planning to buy?
8. Were they planning to buy any presents for their cousin?

**Answers**

**Practice 1**

**Passage 1**

1. It was a Sunday.
2. He was going to Sentosa.
3. He was going with his mother and father.
4. He was excited to take the cable car and play on the beach.
5. He prepared some sushi, sandwiches and a large bottle of juice for a picnic.
6. She prepared some chicken nuggets and sausages.
7. Michael was very excited.

**Passage 2**

1. Shawn is her older brother.
2. They planned to go shopping for Christmas presents.
3. Xena is ten years old.
4. Shawn is eighteen years old.
5. Their parents are often busy working overseas and thus do not have much time to take care of them.
6. They planned to go to Orchard Road.
7. They were planning to buy five presents.
8. They were not going to buy a present for their cousin.

**Practice 2**

**Passage 1**

1. Sylvia was at Newmick Shopping Mall.
2. She was out with her mother.
3. They were looking to get a new computer.
4. They were planning to go to the basement.
5. Their budget was \$2000.

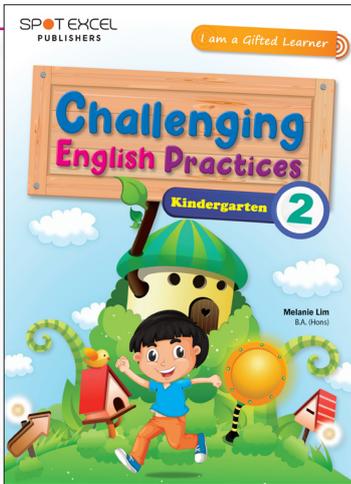
### Comprehension Practices

Each practice comes with two passages and questions for students to answer accordingly.

### Answers

Answers to all questions are provided.

## Challenging English Practices



ISBN: 9789811805059

Challenging English Practices (Kindergarten 2) comprises exercises that aim to develop pre-schoolers' vocabulary, comprehension and reading skills. With a range of challenging and diverse content, this book hopes to strengthen the writing and answering skills of pre-schoolers, ultimately preparing them for their entry into primary school.

**Practice 1**

Please read the following passage carefully.

Alice is a six-year-old girl. She loves to cycle. Her parents work during the day and her grandparents take care of her. Every day after dinner, Alice will go to the nearby park to ride her bicycle and play at the playground. She will usually spend two hours at the park before going home. Before sleeping, Alice loves to read her storybooks. She loves to read about animals and nature.

**Practice 1**

Tick the correct answer.

- How old is Alice?  
Six years old  
Seven years old  
Eight years old
- Who takes care of Alice?  
Bicycle  
Playground  
Grandparents
- How much time does Alice spend at the park?  
Two hours  
One day  
Two weeks
- What does Alice do before sleeping?  
Play with her toys  
Read storybooks  
Run around
- What does Alice like to read about?  
Animals and nature  
Bicycle and park  
Playground and work

**Practice 2**

Read the following and then choose the correct word to fill in the blank spaces.

Johnny loves going for long car rides with his father. He enjoys 1. \_\_\_\_\_ in the front seat and 2. \_\_\_\_\_ to the radio. Sometimes his mother joins them. His father drives a white 3. \_\_\_\_\_. They will usually drive to Changi Airport to look 4. \_\_\_\_\_ flying. Johnny's ambition is to become a pilot one day.

sitting listening car aeroplanes

**Practice 2**

Use the following words provided to fill in the blanks.

bus	transport	car
bridge	bicycle	aeroplanes

- I took the school \_\_\_\_\_ to get home from school.
- I went to the airport to look at \_\_\_\_\_.
- I had to cross the overhead \_\_\_\_\_ to get to the other side.
- My father picked me up from school today in his \_\_\_\_\_ to send me home.
- There are three different types of \_\_\_\_\_ of which I can use to get to my grandmother's house.
- I will usually ride my \_\_\_\_\_ to go to the park.

### Practice Questions

Different types of practice questions for children to strengthen their English language, with answers provided at the end of the book.

**Answers**

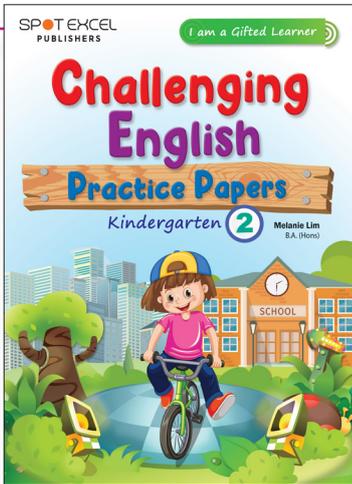
**Practice 1**

- Six years old
- Grandparents
- Two hours
- Read storybooks
- Animals and nature

**Practice 2**

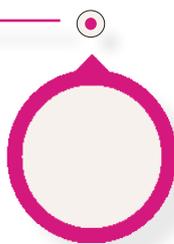
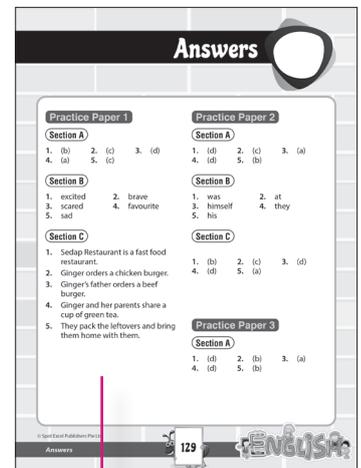
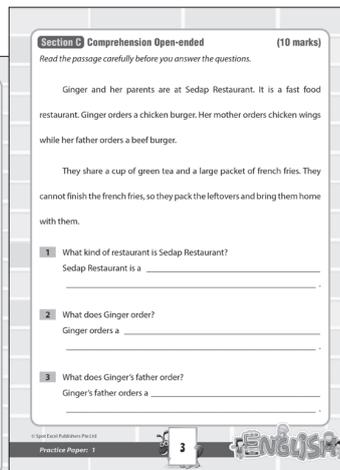
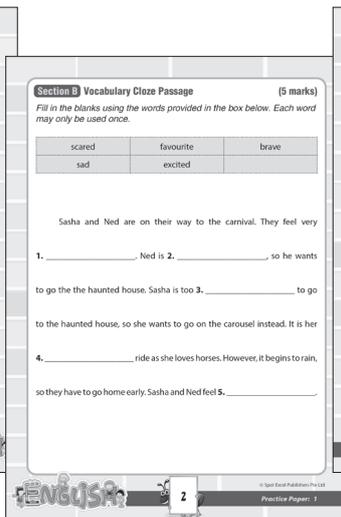
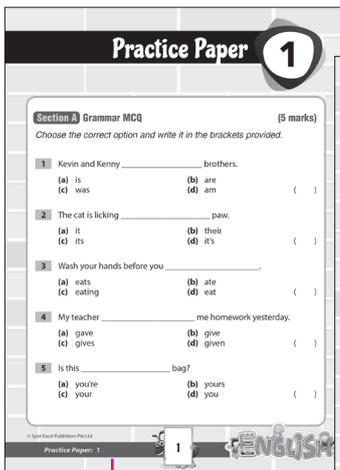
- sitting
- listening
- car
- aeroplanes
- favourite
- happy
- ten
- tidy
- friends
- bus
- aeroplanes
- bridge
- car
- transport
- bicycle

## Challenging English Practice Papers



ISBN: 9789811805073

Challenging English Practice Papers (Kindergarten 2) focuses on helping pre-schoolers develop their comprehension, vocabulary and grammar skills, in order to prepare them for Primary 1. This book contains comprehensive exercises with a range of question types, from MCQ to open-ended questions, to help pre-schoolers strengthen their language skills.



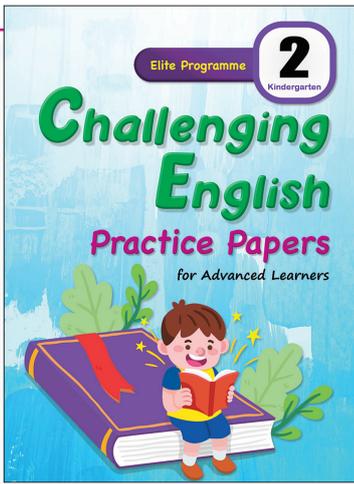
### Practice Papers

Consisting of grammar multiple-choice questions, vocabulary cloze passages and open-ended comprehension questions, students will be better prepared for English language lessons in Primary 1.



### Answers

Answers to all questions are provided.



Elite Programme **2**  
Kindergarten

# Challenging English Practice Papers

for Advanced Learners

For Advanced Learners  
ISBN: 9789814996341

Elite Programme K2: Challenging English Practice Papers for Advanced Learners comprises 24 practice papers on grammar, vocabulary and comprehension for K2 learners preparing for primary school.

## Practice Papers

Consisting of vocabulary, grammar and comprehension questions in multiple-choice, fill in the blanks and open-ended formats.

**Practice Paper 1**

Name: \_\_\_\_\_ Marks:  50  
Date: \_\_\_\_\_ Parent's signature: \_\_\_\_\_

**Section A – Vocabulary**  
(I) Look at each picture carefully and circle the correct word. (10 marks)

-      
-     
-      

**Section B – Grammar**  
(II) Fill in the blanks with the most suitable word from the box. (5 marks)

careful truthful proud loyal fair

- Jia Ming never lies to his parents. He is always \_\_\_\_\_.
- Joseph's parents are rich, but he is a very humble boy. Joseph is never \_\_\_\_\_.
- Audrey is a very careless girl. Her teachers have told her to be more \_\_\_\_\_.
- Thomas believes that everyone must be treated equally. He is a \_\_\_\_\_ person.
- Razali has always been good friends with Hock Chai and will never say anything bad about him. He is very \_\_\_\_\_ to his friend.

**Section B – Grammar**  
(I) Fill in the blanks with the correct answer. (10 marks)

- My best friend \_\_\_\_\_ (like/likes) animals very much and has many pets.
- Sandra \_\_\_\_\_ (has/have) a few tickets for the movie tonight.
- My neighbour's dog always \_\_\_\_\_ (bark/barks) at strangers.
- Aisha \_\_\_\_\_ (goes/go) to the park every evening.
- I would like to \_\_\_\_\_ (sleep/sleeps) in the bed now, so please turn off the radio.
- Do you know that my brother-in-law likes to \_\_\_\_\_ (drink/drinks) his tea from a saucer?
- My mother has just \_\_\_\_\_ (finish/finished) having her shower.

**Section C – Comprehension**  
Read the passage below and answer the questions that follow. Write the number of the correct answer in the brackets. (5 marks)

Grunt is a pig that loves food more than anything else. One day, he saw some big watermelons at a fruit stall. A sign with the word 'Free' was placed on them. Grunt became very excited. He decided to eat all the watermelons.

Greedy Grunt finished all five huge watermelons. He felt very pleased with himself and went home smiling. The next day, Grunt could not move and had to call for the doctor. He was suffering from a bad stomach upset due to overeating.

(II) Fill in the blanks with the most suitable word. Write the number 1, 2, 3 or 4 in the brackets. (10 marks)

- \_\_\_\_\_ is your ruler, the long one or the short one?  
(1) Which (2) What (3) How (4) Who
- \_\_\_\_\_ did you start going to school?  
(1) What (2) How (3) When (4) Which
- \_\_\_\_\_ is she crying?  
(1) How (2) What (3) Why (4) Which
- \_\_\_\_\_ did you cut your finger?  
(1) Whose (2) What (3) Which (4) How

**Section B – Grammar**  
(I) Fill in the blanks with the correct answer. (10 marks)

- My best friend \_\_\_\_\_ (like/likes) animals very much and has many pets.
- Sandra \_\_\_\_\_ (has/have) a few tickets for the movie tonight.
- My neighbour's dog always \_\_\_\_\_ (bark/barks) at strangers.
- Aisha \_\_\_\_\_ (goes/go) to the park every evening.
- I would like to \_\_\_\_\_ (sleep/sleeps) in the bed now, so please turn off the radio.
- Do you know that my brother-in-law likes to \_\_\_\_\_ (drink/drinks) his tea from a saucer?
- My mother has just \_\_\_\_\_ (finish/finished) having her shower.

**Answers**

**Practice Paper 1**

Section A (I)  
1. spoon 2. fork 3. butter spreader 4. bowl 5. chopsticks 6. tin-opener 7. plate 8. glass 9. knife 10. jug

Section A (II)  
1. loves 2. crawls 3. chips 4. hisses 5. swims 6. marks 7. barks 8. quacks 9. hops 10. bleats

Section A (III)  
1. 'useful' 2. proud 3. careful 4. fair 5. loyal

Section B (I)  
1. has 2. hat 3. barks 4. goes 5. drink 6. finish 7. finished 8. had 9. pretend 10. enjoys

Section B (II)  
1. 1 2. 3 3. 2 4. 4 5. 4 6. 1 7. 2 8. 2 9. 4 10. 3

Section C  
1. 3 2. 1 3. 4 4. 2

**Practice Paper 2**

Section A (I)  
1. cake 2. curry puff 3. sandwiches 4. rice 5. cookies 6. fish 7. orange 8. mango 9. pineapple 10. apple

Section A (II)  
1. jelly 2. soap 3. crispy 4. messy 5. beautiful

Section A (III)  
1. usually 2. words 3. favourite 4. attention

Section B (I)  
1. 1 2. 3 3. 1 4. 2 5. 2 6. 2 7. 4 8. 4 9. 3 10. 2

Section B (II)  
1. 3 2. 1 3. They see 4. have 5. agent 7. reading 8. to sell 9. surprised

Section C  
1. 1 2. 3 3. 2 4. 1

**Practice Paper 3**

Section A (I)  
1. skirt 2. shoes 3. trousers 4. belt 5. slippers 6. towel 7. dress 8. pyjamas 9. shorts 10. T-shirt

Section A (II)  
1. 3 2. 1 3. 2 4. 1 5. 4 6. 2 7. 4 8. 1 9. 3 10. 4

Section A (III)  
1. skirt 2. pretty 3. attract 4. eyelashes 5. barbed-wire 6. eyelashes

Section B (I)  
1. 1 2. 1 3. 3 4. 3 5. 1 6. 2 7. 3 8. 3 9. 4 10. 1

Section B (II)  
1. should 2. must 3. could 4. shall 5. should 6. used to 7. might 8. can't 9. needn't 10. has

**Answers**

**Section B (II)**  
1. cry 2. cries 3. cries 4. crying 5. cry

**Section C**  
1. My name is Gary and I am seven years old.  
2. I live with my parents.  
3. I have up to six socks every morning to go to school.  
4. I have many friends at school.  
5. He loves dinosaurs and is always fascinated with them.

**Section D**  
1. Everyone likes Adeline because she is kind and helpful.  
2. Farah disliked Adeline because Adeline is popular and does well in her school tests.  
3. Farah was walking in the rain one day because she had forgotten to bring her umbrella.  
4. Adeline ran up to Farah and offered to share her umbrella with her.  
5. Farah was moved by her kindness and accepted the offer.

**Practice Paper 6**

Section A (I)  
1. 1 2. 4 3. 2 4. 1 5. 3 6. 3 7. 4 8. 1 9. 3 10. 2

Section A (II)  
1. careful 2. park 3. sells 4. rest 5. better 6. litter 7. pencil 8. helpful 9. tops 10. shoes

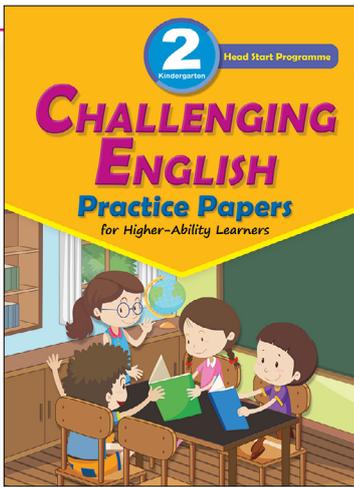
Section A (III)  
1. vegetables 2. fruits 3. watering can 4. pineapple

Section B (I)  
1. should 2. must 3. could 4. shall 5. should 6. used to 7. might 8. can't 9. needn't 10. has

Section B (II)  
1. 1 2. 1 3. 1 4. 1 5. 1 6. 1 7. 1 8. 1 9. 1 10. 1

## Answers

An answer key is included for parents to evaluate their child's progress.



**For Higher-Ability Learners**

ISBN: 9789814996396

This book is specially written for high-ability pre-schoolers preparing for Primary 1. It is suitable for young learners who can ask reflective and probing questions, possess a rich vocabulary and are able to learn quickly, on top of having good memory, the ability to reason at a level usually found in students some years older and a preference for independent work. This book is ideal for parents who are looking to stretch their children to their fullest potential in the English Language.

**Test Paper 2**

Name: \_\_\_\_\_ Marks: \_\_\_\_\_

Date: \_\_\_\_\_

Time: 1 hour Parent's Signature: \_\_\_\_\_

**Section A (5 questions × 1 mark)**  
Fill in each blank with the most suitable word from the box.

pen	group	market	book	eraser
soup	florist	ruled	cut	tricycle

- My mother went to the \_\_\_\_\_ to buy some fish and vegetables.
- I love to have a large bowl of hot chicken \_\_\_\_\_ cold, rainy day.
- During the school holidays, my classmates and I go out \_\_\_\_\_ We visit places of interest and have a good time together.
- My sister loves flowers. She wants to be a \_\_\_\_\_ she grows up.
- Do not touch the blade of the knife! You might get \_\_\_\_\_

**Section B (10 questions × 1 mark)**  
Choose the most suitable answer and write its number in the brackets.

- The librarian neatly \_\_\_\_\_ the books on the bookshelves. (1) collects (2) arranges (3) dumps (4) throws ( )
- Ahmad keeps guppies in his \_\_\_\_\_. (1) aquarium (2) warehouse (3) storeroom (4) kitchen ( )
- Mrs Leong is my aunt. I am her \_\_\_\_\_. (1) son (2) father (3) niece (4) cousin ( )
- Look into the \_\_\_\_\_ if you want to know exactly where China is. (1) album (2) dictionary (3) atlas (4) encyclopaedia ( )
- I like to go fishing at the \_\_\_\_\_. (1) fish tank (2) sink (3) river (4) aquarium ( )
- The dogs \_\_\_\_\_ loudly at the stranger. (1) barked (2) hissed (3) moored (4) neighed ( )
- Madam Norlitzah is feeding the chickens in the \_\_\_\_\_. (1) coop (2) stable (3) kennel (4) forest ( )
- The young of a goat is called a \_\_\_\_\_. (1) cub (2) goatlet (3) foal (4) kid ( )

**Section D (5 questions × 1 mark)**  
Fill in the blanks with a suitable form of the word given in brackets.

- The prince is one of the \_\_\_\_\_ men I have ever seen. (tall)
- Bala \_\_\_\_\_ his cat twice a day. (feed)
- My father \_\_\_\_\_ me two rabbits as a present. (buy)
- An old man \_\_\_\_\_ to see Mrs Lim two hours ago. (come)
- He ran \_\_\_\_\_ in order to catch the bus. (quick)

**Section E (2 questions × 2 marks)**  
Rearrange these words to form sentences. Begin each sentence with a capital letter and end it with a full stop or question mark.

36. during vacation dry season the taking Do enjoy you a \_\_\_\_\_

37. school the public take every bus I day to \_\_\_\_\_

**Section F (2 questions × 2 marks)**  
Write a question for each of the answers given.

38. When \_\_\_\_\_ ?  
You can see the doctor at 3.30 pm.

39. What \_\_\_\_\_ ?  
I saw a rainbow across the sky.

**Section G (1 question × 2 marks)**  
Join the sentences to form one sentence without changing its meaning.

40. Mr Harold is very rich. Mr Harold is not happy.

\_\_\_\_\_

**Section H**  
**Comprehension (10 questions × 1 mark)**  
Read this passage carefully.

One bright Sunday morning, Cheng Lim goes to the beach with his family. They drive there in the family car. It is a sunny day. The sky is clear, and there is a cool breeze blowing all around. The sea is blue and the sand is white and soft. Cheng Lim plays beach ball with his father, while his mother relaxes in the shade, reading a book. At noon, they enjoy a meal of sandwiches and some refreshing lemonade. In the afternoon, Cheng Lim goes swimming with his parents. He also makes sandcastles with a plastic spade and cups. In the evening, Cheng Lim returns home. He enjoyed his day at the beach very much.

Now answer these questions. Write the number of the correct answer in the brackets.

- Cheng Lim went to the beach on \_\_\_\_\_. (1) Monday (2) Wednesday (3) Sunday (4) Saturday ( )
- They took the \_\_\_\_\_ to the beach. (1) train (2) bus (3) boat (4) family car ( )

**Section I**  
**Written Expression (5 × 2 marks)**  
Look at the picture carefully. Write five sentences about what you see.

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

## Test Papers

Consisting of more challenging question formats such as rearranging words to form sentences, question-forming and knowledge of written expressions.

## Answers

An answer key is included for parents to evaluate their child's progress.

**Answers**

**Test Paper 1**

**Section A (5)**  
1. (2) 2. (3) 3. (4) 4. (2)  
5. (1) 6. (3) 7. (3) 8. (1)  
9. (2) 10. (1)

**Section B (10)**  
11. largest 12. heat 13. pencil  
14. bath 15. bookshop

**Section C (26)**  
26. I can buy food and other household items at the supermarket.  
27. They eat fresh foods: dry foods, fruits and vegetables and soups and detergents.  
28. Signs and shelf labels help us to locate the items we wish to buy.  
29. Trolleys and baskets are provided to make shopping easier.  
30. I go to the cash counter to pay for the things I buy.  
31. A cashier tells us how much we have to pay, and packs up our things in plastic bags.  
32. False 33. True 34. False 35. False

**Section D (5)**  
31. tallest 32. feeds 33. bought  
34. came 35. quickly

**Section E (2)**  
36. Do you enjoy taking a vacation during the dry season?  
37. Take the public bus to school every day.

**Section F (2)**  
38. When can I see the doctor?  
39. What did you see across the sky?

**Section G (1)**  
40. Mr Harold is rich, but not happy OR Although Mr Harold is rich, he is not happy.

**Section H (10)**  
41. (3) 42. (4) 43. (2) 44. (1)  
45. (3) 46. (4) 47. (2) 48. (4)  
49. (1) 50. (3)

**Section I (5)**

**Test Paper 2**

**Section A (5)**  
1. playground 2. car  
3. angle 4. kittens  
5. knife

**Section B (10)**  
6. (2) 7. (4) 8. (3) 9. (4) 10. (2)  
11. (1) 12. (3) 13. (2) 14. (2) 15. (2)

**Section C (26)**  
16. (3) 17. (3) 18. (4) 19. (2) 20. (3)  
21. (2) 22. (1) 23. (2) 24. (1) 25. (4)

**Section D (5)**  
26. he 27. under 28. and  
29. you 30. I

**Section E (2)**  
31. eats 32. swimming 33. played  
34. rang 35. running

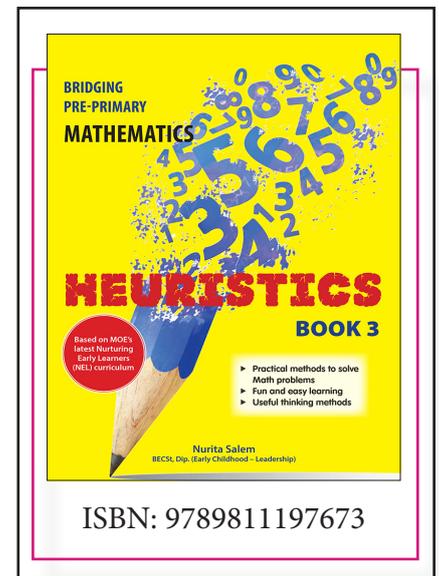
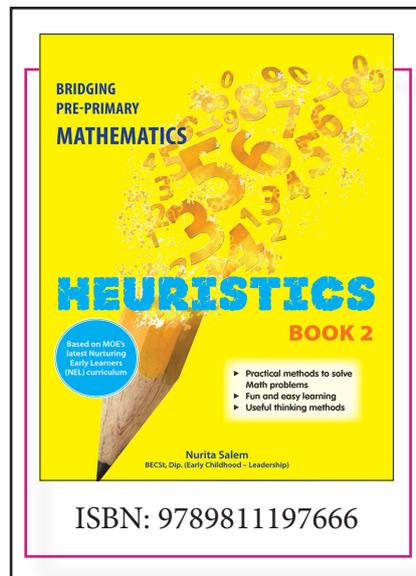
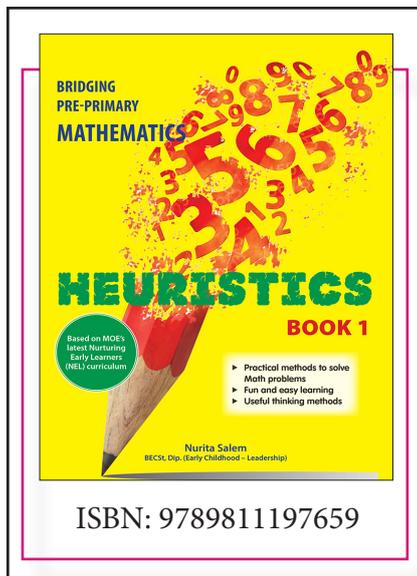
189

## Heuristics

Math heuristics are strategies that students can use to solve complex word problems. The Heuristics series provides comprehensive worked examples coupled with step-by-step solutions, fostering a deep understanding of the heuristics covered and the necessary skills to apply them appropriately. The examples are followed by a set of practice questions for students to apply their learning and assess their understanding of the heuristics taught.

The complete series covers all possible heuristics for every topic, stating the conditions for the use of each heuristic technique clearly. Organised by topic, this series gives ample examples and practice to help students master the skill of application, using the appropriate problem-solving strategy to solve a given mathematical problem.

Through the structure above, it is hoped that students will learn progressively and become confident problem-solvers. Educators may also find this series a valuable resource for teaching heuristics in the classroom.



### Clear Topics

Topics are stated clearly at the beginning of each unit so that students can be active learners.

### Topic Outline

Math vocabulary provides a quick summary for children to reinforce or consolidate learning.

**Unit 5 Ordinal Numbers**

Ordinal numbers are numbers defining the position of something, such as 'first', 'second', or 'third'.

Knowing your ordinal numbers.

1 <sup>st</sup> – first	2 <sup>nd</sup> – second
3 <sup>rd</sup> – third	4 <sup>th</sup> – fourth
5 <sup>th</sup> – fifth	6 <sup>th</sup> – sixth
7 <sup>th</sup> – seventh	8 <sup>th</sup> – eighth
9 <sup>th</sup> – ninth	10 <sup>th</sup> – tenth

Unit 5 Ordinal Numbers

**Ordinal Numbers (1st to 10th)**  
Look at the picture and follow the instructions below.

- Colour the 1st and 8th duck.
- Circle the fifth and tenth duck.
- Draw a bow for the sixth duck.
- Colour the seventh duck brown.
- Colour the webbed feet of the third and fourth duck orange.

### Multiple Practices

Apply new skills and concepts learnt.

**Unit 3 Number Bonds**

**Number Bonds 1 to 10**  
Complete the number bonds.

1. There are 6 marbles altogether in the two bowls.  
There are 4 marbles in Bowl A.  
How many marbles are there in Bowl B?

2. There are 8 marbles altogether in the two bowls.  
There are 3 marbles in Bowl B.  
How many marbles are there in Bowl A?

**Unit 1 Addition within 50**

**Addition without**

**Method 1**  
**Add by Counting On**

Example:  
 $25 \rightarrow 26 \rightarrow 27 \rightarrow 28$   
 Count on 3 steps from 25  
 $25 + 3 = 28$

1. Count on 4 steps from 36.

$36 + 4 = \square$

## Progressive Difficulty

Mathematical variation is used, where the concept being taught remains the same but the difficulty of questions varies by increments. By looking at mathematical concepts from various perspectives, the child's understanding of math will deepen.

## Methods

We understand that there may be many solutions to the same question. Hence, by showcasing different methods of solving questions, children learn to become more flexible in their problem-solving skills.

## Engaging Activities

Fun activities are incorporated to allow students to discover interesting ways to achieve mastery of concepts taught.

**Unit 7 Shapes**

Find the missing shapes and match them correctly.

## Higher Order Thinking Practices

Challenging questions stretch a learner's mind to its fullest.

**Unit 3 Adding and Subtracting**

Study the figures and fill in the missing numbers.

**Unit 3 Adding and Subtracting**

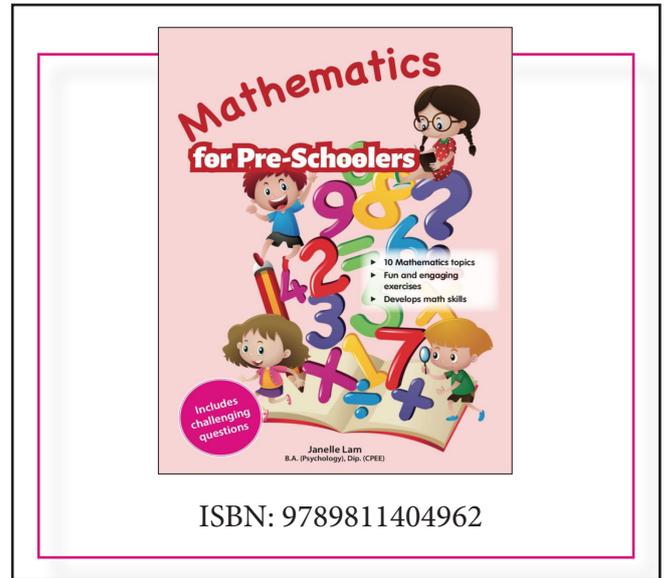
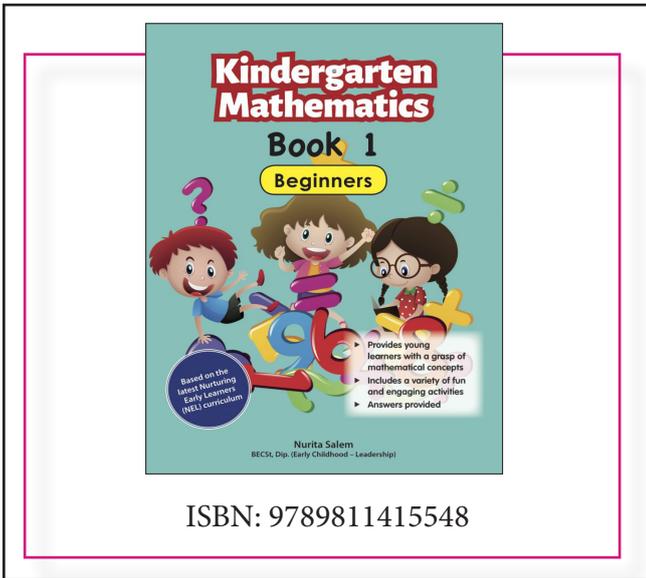
★5.  $\square + 3 \rightarrow 37 \rightarrow + 7 \rightarrow \square \rightarrow - 6 \rightarrow \square$

★6.  $\square + 3 \rightarrow 31 \rightarrow + 5 \rightarrow \square \rightarrow - 4 \rightarrow \square$

★7.  $\square - 2 \rightarrow \square \rightarrow + 9 \rightarrow 21 \rightarrow - 8 \rightarrow \square$

## Mathematics for Pre-Schoolers

This series contains fun-filled activities rich in mathematical content to engage children. When children have fun while they learn, they are engaged in learning and grasp mathematical concepts better.



### Continuous Challenges

To ensure that students have exposure to questions of all difficulty levels, mathematical variation is used. Each concept taught has questions which gradually increase in difficulty, deepening a child's understanding.

Mathematics for Pre-Schoolers

**Activity 3 Add and match**

Count and add the number of items together. Fill in the blanks and draw a line to match the question on the left to the correct number.

 2 + 2	<input type="text" value="9"/>
 4 + <input type="text"/>	<input type="text" value="8"/>
 6 + <input type="text"/>	<input type="text" value="7"/>
 4 + <input type="text"/>	<input type="text" value="4"/>

34

Unit 3 Addition and Subtraction within 10

**Activity 4 Word problems – addition**

Complete the word problems.

1. Dan has 1 fish. His mother bought him 1 more fish. How many fishes does Dan have altogether?  
 +  =   
 Dan has \_\_\_\_\_ fishes altogether.

2. The dog has 2 balls. Sally gave the dog 4 more balls. How many balls does the dog have altogether?  
 +  =   
 The dog has \_\_\_\_\_ balls altogether.

3. Sam has 3 cats. He adopted 2 more cats. How many cats does Sam have altogether?  
 +  =   
 Sam has \_\_\_\_\_ cats altogether.

35

Unit 9 Graphs

**Activity 6 Favourite fruits**

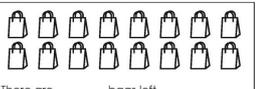
Everyone in the class has a different favourite fruit. The graph below shows the number of children who like each fruit.

Look at the graph and fill in the blanks. 😊 = 1 child.

Apple	😊😊😊😊😊😊😊😊
Mango	😊😊😊😊😊😊😊😊😊😊😊😊
Watermelon	😊😊😊😊😊😊😊😊
Banana	😊😊😊😊😊😊😊😊

- \_\_\_\_\_ children like apple.
- \_\_\_\_\_ children like mango.
- \_\_\_\_\_ children like watermelon.
- \_\_\_\_\_ children like banana.
- \_\_\_\_\_ more children like apple than banana.
- \_\_\_\_\_ fewer children like watermelon than mango.

38

- Cross out 5 umbrellas.  
  
 There are \_\_\_\_\_ umbrellas left.
- Cross out 9 bags.  
  
 There are \_\_\_\_\_ bags left.
- Cross out 8 trolleys.  
  
 There are \_\_\_\_\_ trolleys left.

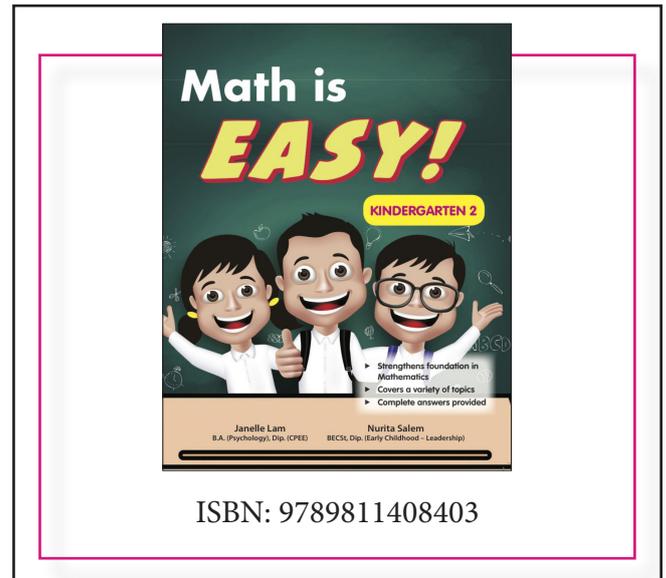
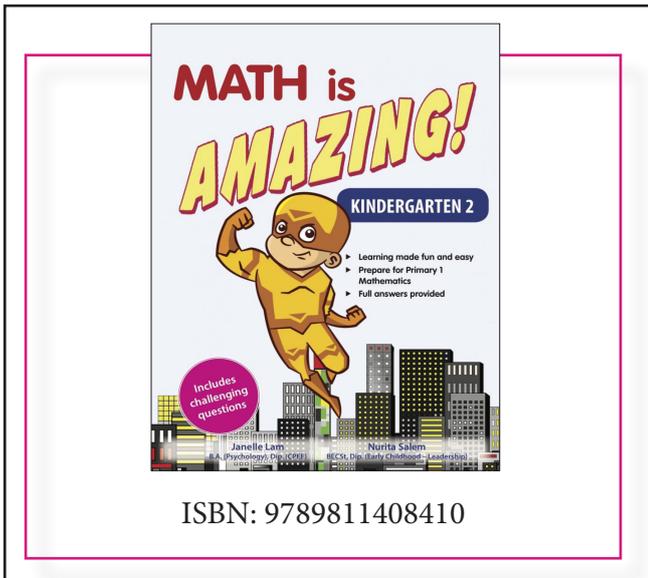
39

### Real-life Applications

Children can uncover new mathematical ideas and connect numbers with their environment.

## What is Math Series

Pre-schoolers are actually no strangers to Math. They naturally sort and organise. They build and design. These mathematical skills are the starting points of their development. With that in mind, we ensure that our titles are developmentally appropriate for pre-schoolers, but at the same time provide comprehensive and fun exercises around counting, adding, subtracting, comparing sizes, lengths, weights and more.



Chapter 6: Measurement

9. What is the length of side A of this rectangle?

The length of side A of this rectangle is \_\_\_\_\_.

10. What is the perimeter of this rectangle?

The perimeter of this rectangle is \_\_\_\_\_.

97

Math is Amazing! Kindergarten 2

8. Arrow 2 is \_\_\_\_\_ arrow 1.

taller than      shorter than

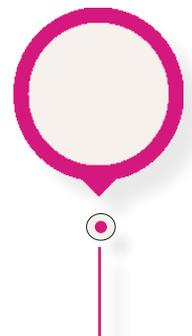
9. Arrow 3 is \_\_\_\_\_ arrow 2.

taller than      shorter than

104

### Assorted Practices

Practices are given in different formats to reinforce learning, and develop creativity.



### Real-life Applications

Children can uncover new mathematical ideas and connect numbers with their environment.

Unit 3: Patterns and Shapes

Look at the box below and answer Questions 26 to 30.

26. Colour all the rectangles above blue.

27. Colour all the triangles above red.

28. Colour all the circles above yellow.

77

Chapter 3: Multiplication and Division 1: Aided Questions

8. How many **more** chocolates did Chase's friends each get than Chase?

Chase's friends each got \_\_\_\_\_ more chocolate than Chase.

Read the given information carefully and answer Questions 9 and 10.

Matt organised a farewell party. He bought 30 gifts for his friends. He evenly distributed the gifts among 10 friends. However, two of his friends could not make it to the party.

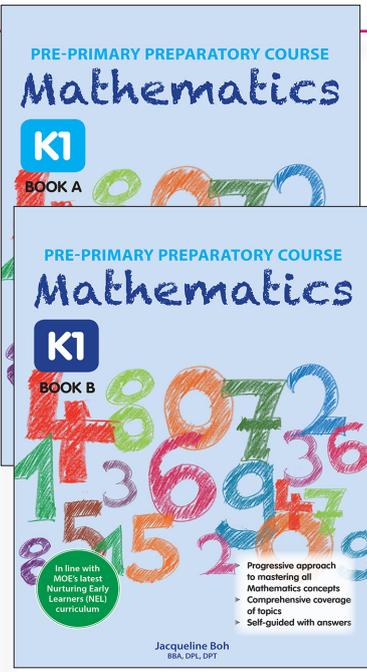
45

## Pre-Primary Preparatory Course

This series of 6 titles is designed primarily for children in Kindergarten One and Kindergarten Two. More advanced learners in Nursery Two can start developing their mathematical skills through this preparatory course as well.

To excel in Mathematics in primary school education and beyond, it is important to understand all essential basic mathematical skills well so that children are able to grasp more advanced mathematical concepts in the future. Therefore, this series helps build that foundation in a progressive and systematic manner.

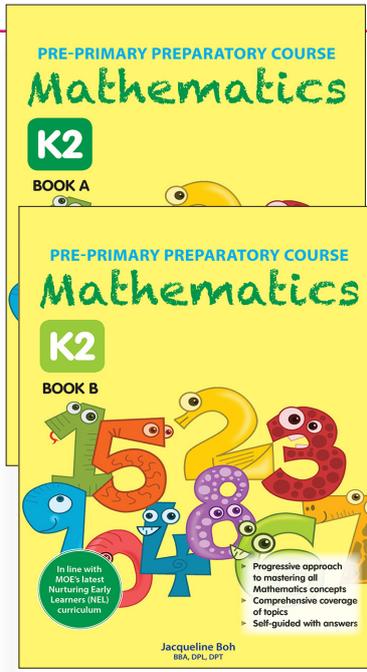
It is comprehensive by providing sufficient practice for each concept in a straightforward and targeted approach. Interesting illustrations and pictures are used to allow children to make connections between the real world and mathematical concepts, and thus help children to develop a stronger grasp of each concept.



The image shows two book covers for the K1 Mathematics series. Book A features a light blue background with the title 'PRE-PRIMARY PREPARATORY COURSE Mathematics' and 'K1 BOOK A' in a blue box. Book B has the same title and 'K1 BOOK B' in a blue box. Both covers display colorful numbers and mathematical symbols. A green circular badge on Book B states: 'In line with MOE's latest Nurturing Early Learners (NEL) curriculum'. A list of features includes: 'Progressive approach to mastering all Mathematics concepts', 'Comprehensive coverage of topics', and 'Self-guided with answers'. The author's name, Jacqueline Boh (BBA, DPL, DPT), is at the bottom.

Book A ISBN:  
9789811194405

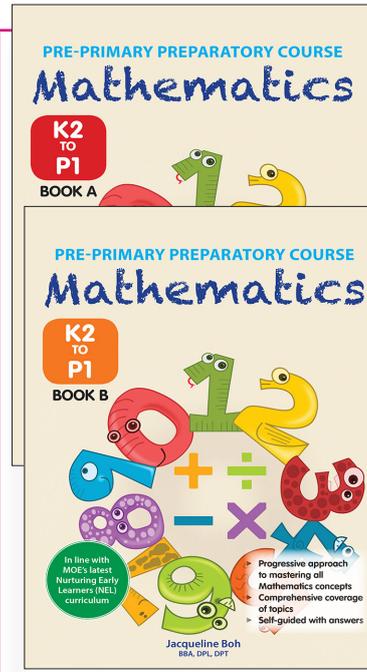
Book B ISBN:  
9789811194412



The image shows two book covers for the K2 Mathematics series. Book A features a yellow background with the title 'PRE-PRIMARY PREPARATORY COURSE Mathematics' and 'K2 BOOK A' in a green box. Book B has the same title and 'K2 BOOK B' in a green box. Both covers display colorful numbers and mathematical symbols. A green circular badge on Book B states: 'In line with MOE's latest Nurturing Early Learners (NEL) curriculum'. A list of features includes: 'Progressive approach to mastering all Mathematics concepts', 'Comprehensive coverage of topics', and 'Self-guided with answers'. The author's name, Jacqueline Boh (BBA, DPL, DPT), is at the bottom.

Book A ISBN:  
9789811194382

Book B ISBN:  
9789811194399



The image shows two book covers for the K2 to P1 Mathematics series. Book A features a light beige background with the title 'PRE-PRIMARY PREPARATORY COURSE Mathematics' and 'K2 TO P1 BOOK A' in a red box. Book B has the same title and 'K2 TO P1 BOOK B' in a red box. Both covers display colorful numbers, mathematical symbols, and animals. A green circular badge on Book B states: 'In line with MOE's latest Nurturing Early Learners (NEL) curriculum'. A list of features includes: 'Progressive approach to mastering all Mathematics concepts', 'Comprehensive coverage of topics', and 'Self-guided with answers'. The author's name, Jacqueline Boh (BBA, DPL, DPT), is at the bottom.

Book A ISBN:  
9789811194368

Book B ISBN:  
9789811194375

Unit 5 Number Bonds

**Practice 5.7 Number Bonds of 10**

Complete the number bonds.

a. There are 10 vegetables altogether. Complete the number bond.

b. There are 10 vegetables altogether. Complete the number bond.

c. There are 10 vegetables altogether. Complete the number bond.

Pre-Primary Preparatory Course Mathematics K2 Book 8

**Practice 7.2 Subtract Using Number Bond**

Subtract using number bond. Fill in the missing numbers.

a.

b.

c.

Pre-Primary Preparatory Course Mathematics K1 Book 8

**Practice 3.3 Count and Add**

Draw circles, count and add. Complete the addition equations.

a.

b.

c.

d.

Unit 1 Counting From 0 to 10

**Practice 1.1 Count 0, 1 and 2**

Count and write the number in each box.

a. The boy has  eyes

b. He has  nose

c. He has  pair of glasses

d. He has  mouth

e. He has  ears

f. He has  cap



## Learn by Doing

Children are encouraged to take a hands-on approach to their learning by actively participating in the exercises.

Unit 2 Comparing Numbers

**Practice 2.4 More**

Circle the group with **more** things.

**Shop**

a.

b.

c.

d.

Unit 4 Length

**Practice 4.6 Measuring in Units**

Fill in the blanks and boxes (  is one unit).

a. The floor lamp is  units tall.

b. The sofa is  units tall.

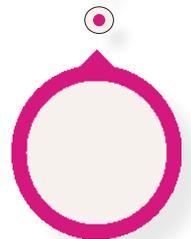
c. The cupboard is  units tall.

d. The \_\_\_\_\_ is the **tallest**.

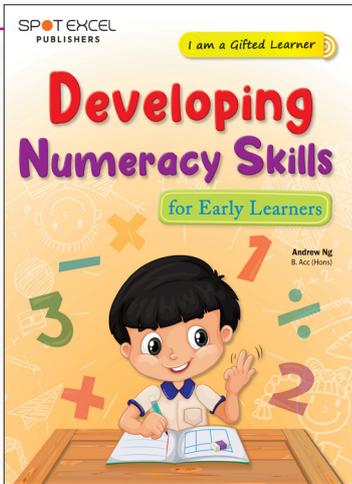
e. The \_\_\_\_\_ is the **shortest**.

## Real-life Applications

Children can uncover new mathematical ideas and connect the concepts with their environment.



## Developing Numeracy Skills



ISBN: 9789811805080

Developing Numeracy Skills for Early Learners focuses on building counting and problem-solving skills in early learners. This book contains engaging visuals and exercises to make learning about numbers exciting for young children, so as to strengthen their foundation in Mathematics and prepare them for more challenging topics in the future.

**CHAPTER 1 Numbers (Including Addition & Subtraction)**  
Chapter 1.1 Numbers 1 - 10  
How many animals are there?

**Spell the number**

**Number bonds**  
What numbers can 10 be split up into?  
10 - 3 = 7  
And 10 - 7 = 3!  
The 2 numbers here must add up to the number on the left!

**Addition & Subtraction**  
Addition - numbers 1 to 10  
1 + 1 =  
2 + 3 =  
5 + 2 =  
7 + 3 =  
4 + 6 =

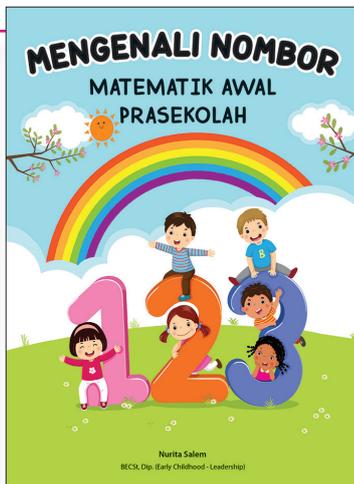
**Numbers**



### Engaging Exercises

Various exercises with guiding points and examples for children to learn and explore the wonders of numbers.

## Knowing Numbers – Pre-school Mathematics



ISBN: 9789811499210

Knowing Numbers – Preschool Mathematics is written in Malay for children ages four to six. The book aims to introduce basic mathematical foundation and concepts that are interactive. The six different exercises will help stimulate interest in Mathematics among early learners using the Malay language.

**Mari Kita Lihat Carta Bentuk!**  
Teliti dan baca bentuk-bentuk di bawah secara lantang.

Bentuk	Ejaan
	segi empat tepat
	empat segi
	bulat
	segi tiga

**Tentukan Urutan**  
Tampalkan pelekat pada burung yang ketiga dari kiri.

**Surihkan Nombor**  
Warnakan kapal-kapal kertas di bawah mengikut warna kegemaran kamu. Kemudian, surihkan nombor di bawah.

Terdapat kapal kertas.



### Interactive Activities

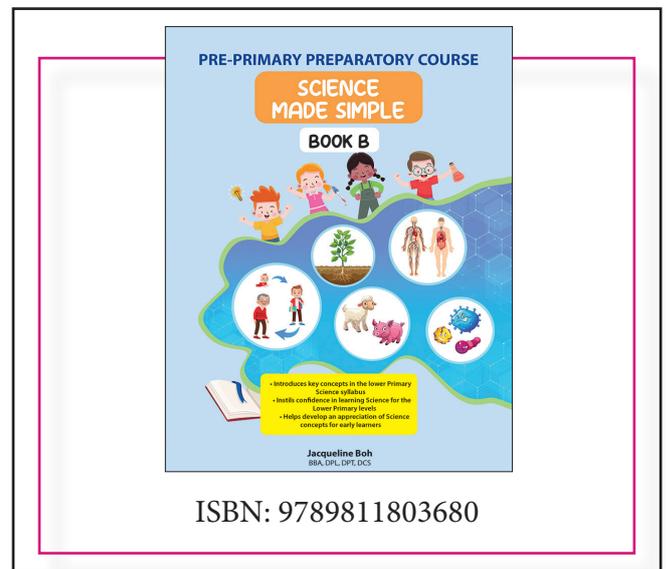
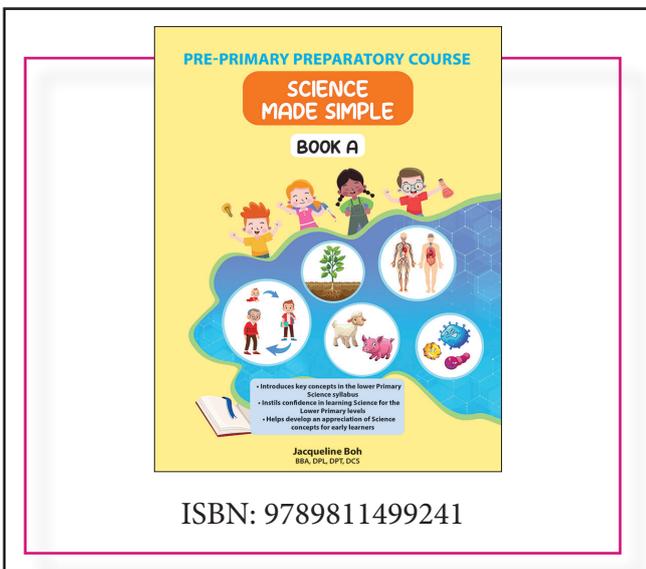
Various interactive activities with fun illustrations aid children in learning Mathematics.



## Science Made Simple

Science Made Simple comprises two books (Book A and Book B) and is designed to help children grasp all key Science concepts in the Lower Primary Science syllabus. Advanced learners from Kindergarten Two can start developing an appreciation for Science. Children from Primary One and Primary Two can also use these books to prepare themselves before they progress to Primary Three. Children from Primary Three and Primary Four can use these books for practice and examination preparation.

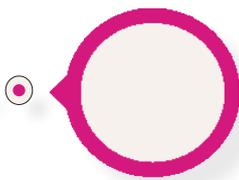
This series aims to achieve the above objectives and instil confidence for deeper Science learning and exploration. All fundamental concepts required for Lower Primary Science are introduced in Book A and B. After completing all practices, the books serve as examination revision notes for Primary Three and Primary Four.



**1 Living things and non-living things**

**Learn** Characteristics of living things

- ▶ Need **air**, **food** and **water** to survive.
- ▶ Can **grow**.
- ▶ Can **move** by themselves.
- ▶ Can **respond to changes** around them.
- ▶ Can **reproduce**.



### Illustrations

Key learning points are illustrated for easier learning and understanding.

**Practices & Answers**

**Living things and non-living things**

**Practice 1.5 Living things need air, food and water**  
Circle **Yes** or **No** and fill in each blank with **air**, **food** or **water**.

- Can the cricket survive? **Yes / No**  
Why?  
The cricket does not have \_\_\_\_\_.
- Can the cricket survive? **Yes / No**  
Why?  
The cricket does not have \_\_\_\_\_.
- Can the cricket survive? **Yes / No**  
Why?  
The cricket does not have \_\_\_\_\_.
- Can the cricket survive? **Yes / No**  
The cricket has \_\_\_\_\_ and \_\_\_\_\_.

**Living things and non-living things**

**Practice 1.6 Living or non-living things**  
Circle **True** or **False** for each sentence.

Group A	Group B
cricket	jam
plant	motorcycle
walrus	lamb

- The things in Group A can grow. **True**
- The things in Group A cannot respond to changes. **True**
- The things in Group B can move by themselves. **True**
- The things in Group B cannot grow. **True**

**Answers**

**Practice 1.1**  
1. Living thing  
2. Living thing  
3. Non-living thing  
4. Living thing  
5. Non-living thing  
6. Living thing  
7. Non-living thing  
8. Non-living thing  
9. Living thing  
10. Living thing

**Practice 1.2**  
1. 1; 2; 3  
2. 1; 2; 3  
3. Living things can grow.

**Practice 1.3**  
1. reaches  
2. moves  
3. runs  
4. Living things can respond to changes.  
5. Living things can move by themselves.

**Practice 1.4**

**Practice 1.5**  
1. No air  
2. No food  
3. No water  
4. Yes; air; food; water

**Practice 1.6**  
1. True  
2. False  
3. False  
4. True  
5. True  
6. True  
7. True  
8. True  
9. True  
10. Living thing

**Practice 1.7**

Living things	Non-living things
can grow	can reproduce
can move by themselves	can respond to changes
can reproduce	need air, food and water to survive
can respond to changes	can move by themselves
need air, food and water to survive	cannot reproduce
cannot reproduce	cannot respond to changes
cannot respond to changes	can not need air, food and water

**Practice 2.1**  
1. They need air, food and water.  
2. They can grow.  
3. They can respond to changes.  
4. They can move by themselves.  
A. They feed on other living things.  
B. They can make their own food.

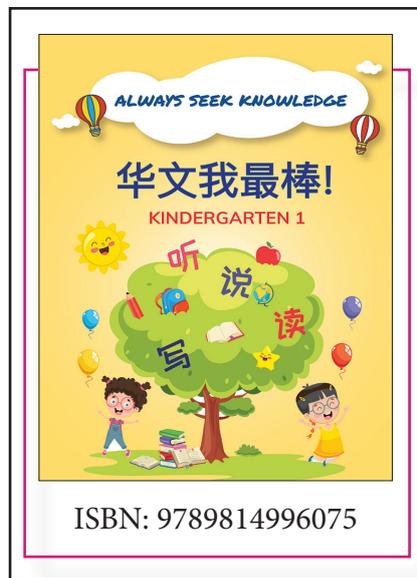
**Practice 2.2**  
1. B  
2. A  
3. D  
4. C

Each unit has several practices of varying difficulty, supported by answers at the end of the books.

## Always Seek Knowledge – Chinese

It is only with a solid foundation that the rest of a house can be built. The Always Seek Knowledge 华文我最棒! series is meticulously crafted to create a strong foundation of the Chinese language in children through a variety of engaging activities.

The series builds upon the basics of the Chinese language. Children will learn everyday Chinese vocabulary as well as how to write Chinese characters. Activities in these books will build cognitive abilities in children, ranging from motor skills to problem-solving. Through these books, children will be able to develop a strong foundation in the language.



**连连看**

连一连:

**练习**

圈一圈正确的图:

1	□	□	□	□
□	□	□	□	□

圈一圈正确的图:

**写一写**

读一读, 写一写。

老师早安, 同学好。

早	安	早	安
老	师	老	师

**填一填**

填写正确的量词。

一个      一只

\_\_\_\_ 太阳      \_\_\_\_ 乌龟

\_\_\_\_ 蚊子      \_\_\_\_ 皮球

\_\_\_\_ 头      \_\_\_\_ 老鼠

\_\_\_\_ 猫      \_\_\_\_ 鼻子

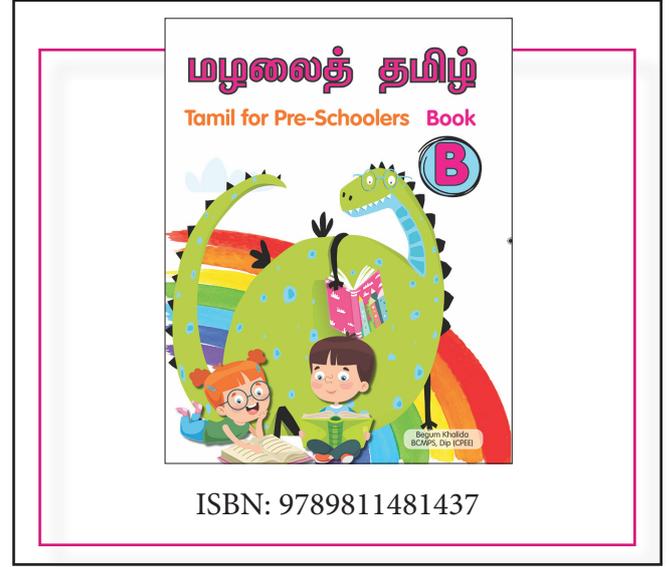
### Variety of Activities

Children will be exposed to a variety of activities with increasing difficulty to learn Chinese vocabulary and characters as they progress through the 3 books.



## Tamil for Pre-Schoolers

Ideal for introducing the foundations of Tamil language to children. The various thematic practices included in this series aim to engage children with basic Tamil vocabulary and phrases, sentence structuring, simple Mathematics, engrossing word games and stimulating riddles! A must-have for encouraging the love for Tamil in children!

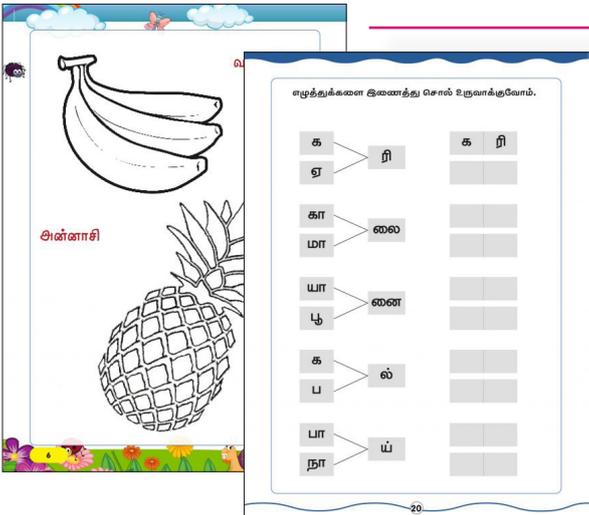


### Writing Practices

Comprehensive writing practices that include the writing of letters and common words.

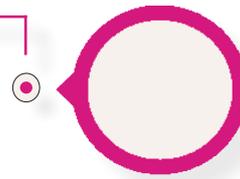
### Simple Sentences

Children can put their vocabulary to use by practising sentence construction.

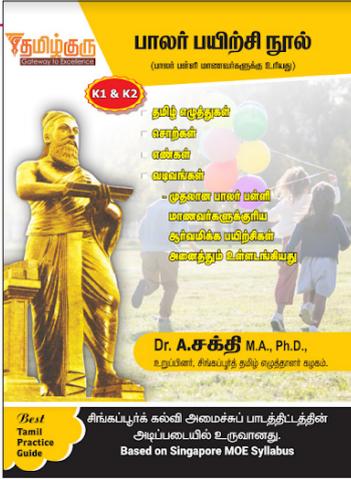


### Engaging Activities

Encourage your child's enthusiasm towards the Tamil language through stimulating and comprehensive exercises that equip your child with a wide range of vocabulary.



## Practice Guide



ISBN: 9789811498541

Tamil Practice Guide is suitable for Kindergarten 1 and Kindergarten 2 students, based on the latest MOE syllabus.

This book contains Tamil letters, simple vocabulary, numbers, shapes, basic proverbs and many more interesting exercises for kids to indulge in and to increase their exposure to the world of Tamil.

<b>தமிழ் எழுத்துகள்</b>									
உயிர் எழுத்துகள்	- 12								
வெய் எழுத்துகள்	- 18								
உயிர்வெய் எழுத்துகள்	- 216								
ஆய்ந்த எழுத்து	- 1								
வெற்தம்	- 247								
<b>உயிர் எழுத்துகள்</b>									
அ	ஆ	இ	ஈ	உ	ஊ	எ	ஏ		
ஐ	ஒ	ஔ	ஓ	ஔ					
<b>ஆய்ந்த எழுத்து</b>									
ஃ									
<b>வெய் எழுத்துகள்</b>									
க்	ங்	ச்	ஞ்	ட்	ண்	த்	ந்	ப்	ம்
ய்	ர்	ல்	வ்	ழ்	ள்	ற்	ன்		

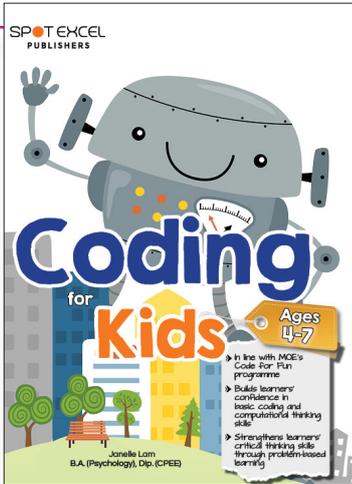
<https://tamilguys.com.sg> 7

### Introduction to Tamil Letters

Letters in the Tamil language are grouped into different categories. This book educates young students about the categories while introducing the letters to them.



## Coding for Kids



ISBN: 9789811472619

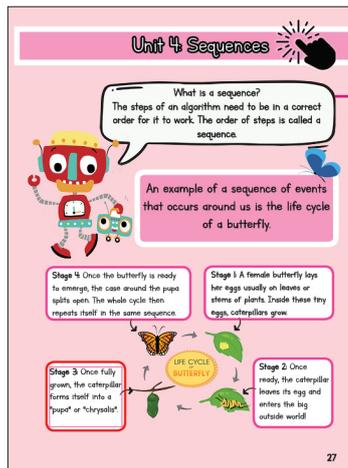
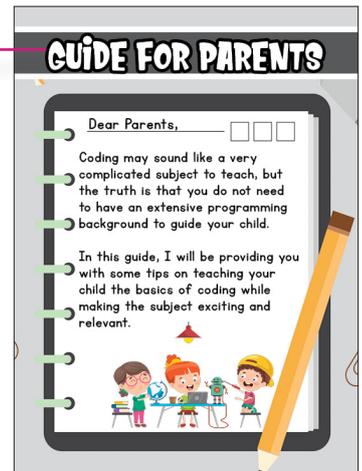
Coding for Kids is an activity guidebook which is primarily designed for children aged 4 to 7 years old. It aims to introduce children to basic coding concepts such as algorithms, sequences, patterns, loops and debugging.

With topics developed to support the Ministry of Education's "Code for Fun" initiative, children will build a foundation in coding through simplified explanations and various fun and hands-on activities.



### Guide for Parents

Tips are provided for teaching coding to children so that even parents with no experience in coding can help.



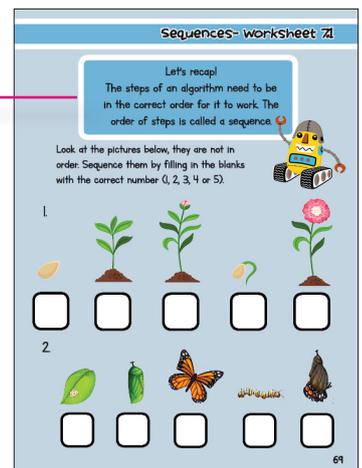
### Clear Explanations

Explanations are provided for children and their parents at the beginning of each unit as an introduction to the topic.

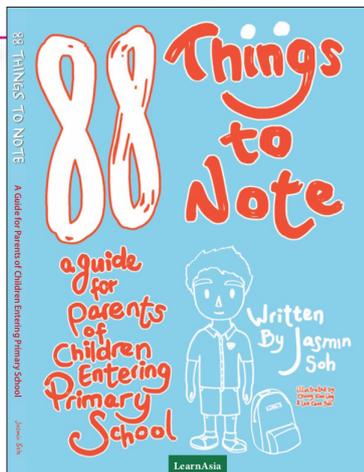


### Let's Recap

'Let's Recap!' section at the start of each worksheet to reinforce concepts learnt before attempting practice.



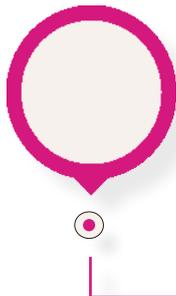
# 88 Things To Note: A Guide for Parents of Children Entering Primary School



ISBN: 9789811116896

88 Things to Note is written for parents by an experienced lower primary school teacher. This title is meant for parents with children just entering primary school. It provides insight to the selection of a primary school, explains the support parents can provide their children during the transition period, and highlights other factors that would effect a successful transition. Knowing what can be done before school officially starts helps parents to be more confident, and this in turn prepares the child to be mentally ready for the new milestone.

This book compiles more than 80 life hacks for parents and is written to help you prepare to send your child to school, as well as explain the workings of the school to you. This book will serve as a bridge between you and your child's teachers as well as help make the selection of a suitable primary school less frustrating and more enjoyable.



## Illustrations

The illustrations help to improve understanding of points made.



3 TO 4 MONTHS BEFORE SCHOOL STARTS	
PRESCHOOL	PRIMARY SCHOOL (PRIMARY 1 & PRIMARY 2)
<p>Public approach that covers an initial onset of learning experience</p> <ul style="list-style-type: none"> <li>• Academic &amp; creative expression</li> <li>• Emotional expression</li> <li>• Language and literacy</li> <li>• Motor skills development</li> <li>• Numeracy</li> <li>• Self and social awareness</li> </ul>	Similar to that of a preschool
<p>Integrates learning - learning takes place seamlessly in structured and meaningful situations</p> <p>Interactive learning - It is found that when there is extensive and meaningful interaction between children and adults in a nurturing and positive environment, children display more exploratory behaviour and better peer relationships</p>	Similar to that of a preschool in a larger classroom setting
<p>Play as a medium for learning - research has shown that play is the best way for children to learn as it is very motivating for children to explore, discover, take risks, make mistakes, cope with failure and express their feelings</p> <p>Class size is about 15 to 25</p> <p>Average of about two to three preschool teachers</p> <p>Absent of lessons are conducted in the same classroom</p>	<p>A combination of formal frontal teaching and interactive learning</p> <p>Students have many opportunities for small group learning</p> <p>Significantly less time for free play and exploratory activities</p> <p>Class size is about 30</p> <p>Average about six primary school teachers teaching the same class</p> <p>Expect some movements as some lessons are conducted in special rooms or outdoors</p>

## Organised Information

Information is organised in such a way that it makes reading easier and makes for an overall more enjoyable experience.





# Primary Level

▶ English

▶ Mathematics

▶ Science

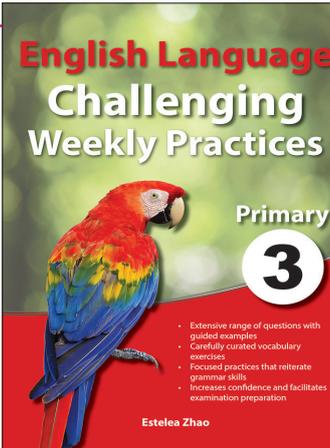
▶ Bahasa Melayu

▶ Tamil

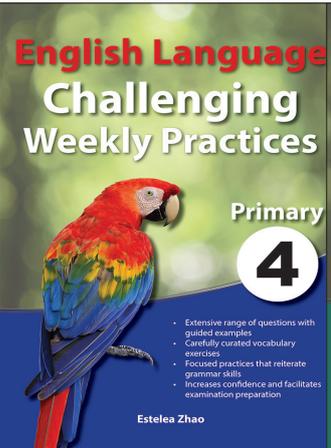
## Challenging Weekly Practices

This series aims to help students build on their vocabulary and grammar skills to score well in their examinations. Split across 38 weeks of the school year, they can use the books weekly to supplement their school work. The grammar and vocabulary in this series are carefully selected to expose students to words commonly seen at their level.

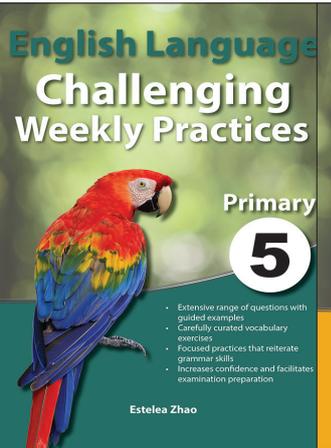
It also aims to build up students' confidence to facilitate their learning by providing revision for all components of the English paper.



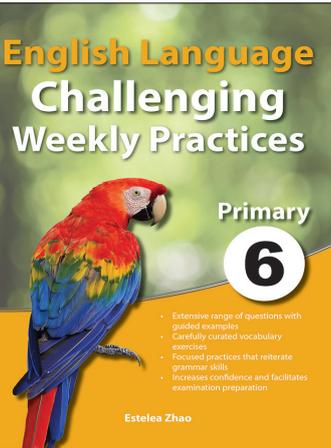
ISBN: 9789811447419



ISBN: 9789811447426



ISBN: 9789811449383



ISBN: 9789811449376

**Term 1 Week 1**

**Topic: Possessive Pronouns**

Possessive pronouns are pronouns that can be used to show ownership.  
 Example This is my cousin. Her name is Alice.

We use the word 'her' to show that the name 'Alice' belongs to the speaker's cousin.

Examples of possessive pronouns			
her	his	our	
their	my	your	

**Simple Practice**

Draw a line to match the picture to the correct pronoun.



• His



• Their



• Her



• Its

### Topics & Practice

English grammar topics are gradually introduced as the student progresses through the book. Each topic is followed by a grammar practice which will allow the student to practise the concepts learnt.

**Grammar MCQ**

For each question below, choose the most suitable option and write your answer in the brackets provided.

- My sister, Carol, lost \_\_\_\_\_ grip and fell from the monkey bars.
  - (1) its
  - (2) his
  - (3) her
  - (4) our
- Mrs Ching is very proud of \_\_\_\_\_ son, who is a primary school principal.
  - (1) its
  - (2) his
  - (3) her
  - (4) our
- My gran \_\_\_\_\_ my birthday.
  - (1) our
  - (2) his
  - (3) her
  - (4) their
- Jerald \_\_\_\_\_ his eyes and peered into the darkness that filled his room. "Who is it?"
  - (1) its
  - (2) his
  - (3) her
  - (4) our
- My pet \_\_\_\_\_ suddenly, he felt a tap on his left shoulder. He
  - (1) its
  - (2) his
  - (3) her
  - (4) their

**Grammar Cloze 2**

Read the following passage carefully. Underline the correct word given in the brackets.

Last Saturday, Grandfather brought my siblings and I to the fair in the downtown area. There 13. ( are / were ) many different stalls there. I was eager to try out some of the games at the stalls.

Looking around, I noticed my younger brother looking at \_\_\_\_\_

**Vocabulary Cloze**

Read the following passage carefully. Choose the correct word from the box below and write the letter (A to H) in the blanks provided. USE EACH WORD ONLY ONCE.

(A) turned	(B) checked	(C) rubbed	(D) shocked
(E) curious	(F) flipped	(G) wriggled	(H) quavered

Nicholas sat up on his bed nervously. He (6) \_\_\_\_\_ his eyes and peered into the darkness that filled his room. "Who is it?" Nicholas mumbled. Suddenly, he felt a tap on his left shoulder. He (7) \_\_\_\_\_ around and saw a shadowy creature. "Who are you?" screamed Nicholas as he (8) \_\_\_\_\_ in fear. The creature did not answer and walked away slowly. Feeling very (9) \_\_\_\_\_, Kevin followed it to the living room. However, the shadow went behind the sofa and disappeared.

**Editing**

Correct the spelling of each underlined word. Write the correct word in the boxes provided.

Winston was really excited! He had done well in his exameenations and his parents had promised to bring him to a cooking class. Winston loved helping his mother in the kitchen and spent a lot of time looking up recipes and learning about different ingridiants.

Winston woke up early, eager to begin the day. He looked up the address of the cooking school and enthusiastically gave directions to his father, who was driving.

In class, the head chaf spent some time going through recipes and teaching the students how to prepare the different dishes. He even taught them how to decorate the completed dishes.

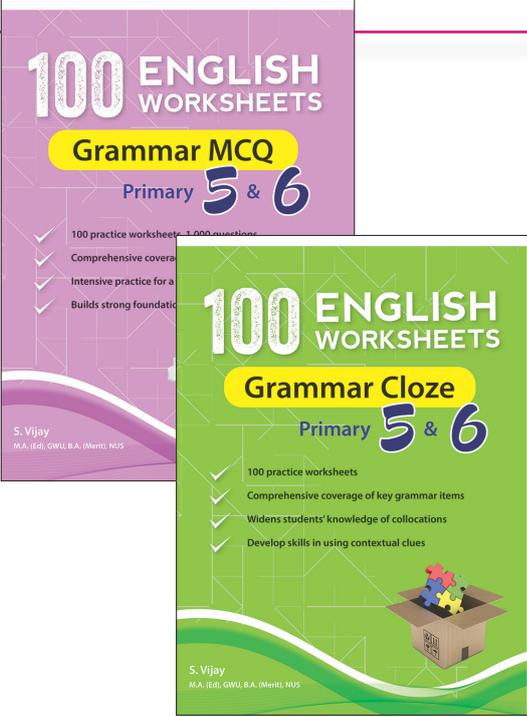
Winston finished cooking his dish and proudly presented it to his parents.

### Resource of Practices

Ample questions per worksheet to prepare students for the different sections of an English Language examination paper.

## 100 English Worksheets

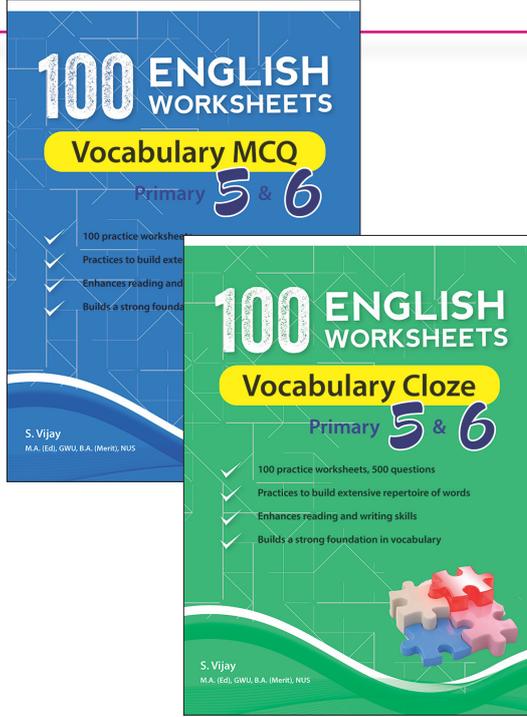
100 English Worksheets Primary 5 & 6 is a series of workbooks based on the latest Primary English syllabus issued by the Ministry of Education, Singapore. With 100 practice worksheets in each book, they aim to help students gain confidence to excel in the English Language examination paper and achieve an outstanding grade in English.



The image shows two book covers for Grammar. The top cover is purple and titled '100 ENGLISH WORKSHEETS Grammar MCQ Primary 5 & 6'. It lists features: 100 practice worksheets, 1,000 questions; Comprehensive coverage of key grammar items; Intensive practice for a wide range of grammar topics; Builds a strong foundation in English. The bottom cover is green and titled '100 ENGLISH WORKSHEETS Grammar Cloze Primary 5 & 6'. It lists features: 100 practice worksheets; Comprehensive coverage of key grammar items; Widens students' knowledge of collocations; Develop skills in using contextual clues. Both covers feature a puzzle box illustration and the author's name, S. Vijay.

**Grammar MCQ**  
ISBN: 9789811472145

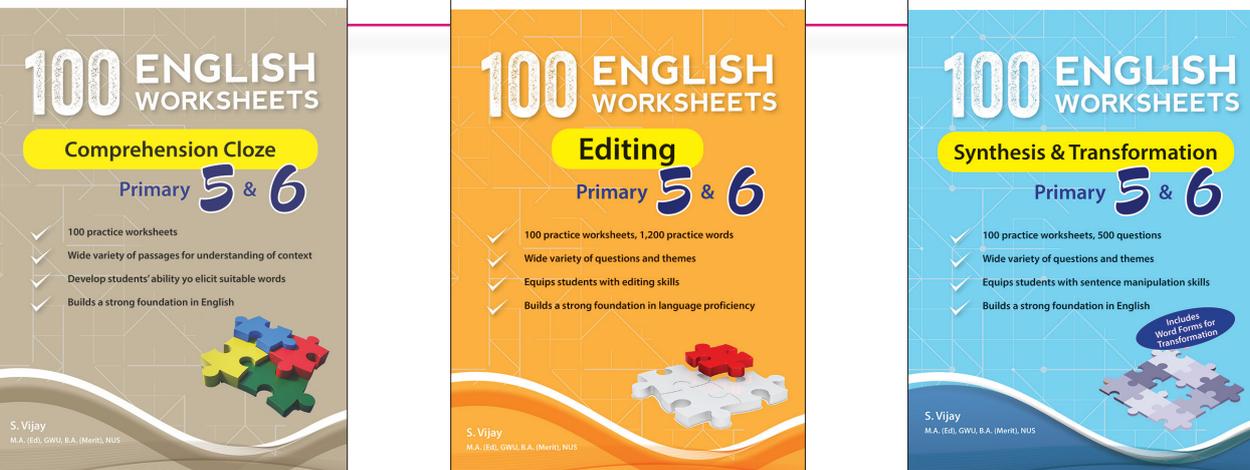
**Grammar Cloze**  
ISBN: 9789811472169



The image shows two book covers for Vocabulary. The top cover is blue and titled '100 ENGLISH WORKSHEETS Vocabulary MCQ Primary 5 & 6'. It lists features: 100 practice worksheets, 1,000 questions; Practices to build extensive repertoire of words; Enhances reading and writing skills; Builds a strong foundation in English. The bottom cover is green and titled '100 ENGLISH WORKSHEETS Vocabulary Cloze Primary 5 & 6'. It lists features: 100 practice worksheets, 500 questions; Practices to build extensive repertoire of words; Enhances reading and writing skills; Builds a strong foundation in vocabulary. Both covers feature a puzzle illustration and the author's name, S. Vijay.

**Vocabulary MCQ**  
ISBN: 9789811472138

**Vocabulary Cloze**  
ISBN: 9789811472152



The image shows three book covers for other English topics. The left cover is brown and titled '100 ENGLISH WORKSHEETS Comprehension Cloze Primary 5 & 6'. It lists features: 100 practice worksheets; Wide variety of passages for understanding of context; Develop students' ability to elicit suitable words; Builds a strong foundation in English. The middle cover is orange and titled '100 ENGLISH WORKSHEETS Editing Primary 5 & 6'. It lists features: 100 practice worksheets, 1,200 practice words; Wide variety of questions and themes; Equips students with editing skills; Builds a strong foundation in language proficiency. The right cover is light blue and titled '100 ENGLISH WORKSHEETS Synthesis & Transformation Primary 5 & 6'. It lists features: 100 practice worksheets, 500 questions; Wide variety of questions and themes; Equips students with sentence manipulation skills; Builds a strong foundation in English. It also includes 'Word Forms for Transformation'. All covers feature a puzzle illustration and the author's name, S. Vijay.

**Comprehension Cloze**  
ISBN: 9789811479076

**Editing**  
ISBN: 9789811472121

**Synthesis & Transformation**  
ISBN: 9789811472114



## Mastering Vocabulary

The Mastering Vocabulary series is specially designed for students to prepare for Paper 2 of the English examination. It is based on the latest Primary English syllabus issued by the Ministry of Education, Singapore. Besides the Vocabulary MCQ and Vocabulary Cloze in Paper 2, having a rich vocabulary also enables the student to answer questions in other sections of the examination paper more effectively. Through the practices in this book, students will be able to familiarise themselves with the commonly tested vocabulary questions and will be better equipped to attempt their tests and examinations. This series also serves as a good supplement for students to build a strong foundation in vocabulary, heighten their interest in English and help them achieve excellent results.

ISBN: 9789814996365      ISBN: 9789814996303      ISBN: 9789811165245  
 ISBN: 9789814996235      ISBN: 9789811165238      ISBN: 9789811165252

**PRACTICE 1**

Choose the most suitable answer and write the corresponding alphabet in the bracket.

- Always remember that there are \_\_\_\_\_ to your actions. Please think before you act.  
 (A) consequences  
 (B) results  
 (C) punishments  
 (D) rewards      ( )
- Please do not \_\_\_\_\_ this machine to the sun as the ultra-violet rays will spoil its mechanism.  
 (A) open  
 (B) put  
 (C) expose  
 (D) reveal      ( )
- The old lady who \_\_\_\_\_ a terrible fall was rushed to the hospital immediately.  
 (A) surmised  
 (B) created  
 (C) suffered  
 (D) slipped      ( )
- James fell asleep the moment he \_\_\_\_\_ on his bed.  
 (A) lay out  
 (B) lay down  
 (C) lay up  
 (D) lay in      ( )
- You will never know if you can make it unless you \_\_\_\_\_.  
 (A) throw in the towel  
 (B) ride the waves  
 (C) give the game away  
 (D) give it a shot      ( )

PRIMARY - ENGLISH VOCABULARY PRACTICE

**PRACTICE 39**

Fill in the blanks with the correct words from the box. Use each word only once.

stunning    decay    adverse    indelible    deserves  
 foraged    compromise    tepid    water    harmony

- Always remember that blood is thicker than \_\_\_\_\_. Your family will always be there for you.
- Eating fast food everyday has an \_\_\_\_\_ impact on our health.
- Mary weaved everyone when she walked into the hall with a \_\_\_\_\_ dress.
- The \_\_\_\_\_ memories of war will forever live on in the hearts of the people.
- No one \_\_\_\_\_ to be treated in such a humiliating manner.
- After many rounds of discussion, Peter and Sam finally reached a \_\_\_\_\_.
- The cattle \_\_\_\_\_ in the fields for food.
- The \_\_\_\_\_ response of the audience was a big disappointment for the cast of the play.
- In Singapore, people of all races and religion live in \_\_\_\_\_.
- I had to visit the dentist as my tooth \_\_\_\_\_ was causing me a lot of pain.

PRIMARY - ENGLISH VOCABULARY PRACTICE

**PRACTICE 45**

Fill in the blanks with the correct words from the box.

rejected    raided    astronauts    chauffeur    crept    abandoned  
 position    reputation    retired

- The ship captain ordered everyone to \_\_\_\_\_ the ship as it was sinking.
- The panel of judges \_\_\_\_\_ Tommy's idea as they did not like it.
- Anthony \_\_\_\_\_ out of the kitchen after stealing a chocolate chip cookie.
- The \_\_\_\_\_ strapped in and prepared for the spaceship to take off.
- The band of robbers \_\_\_\_\_ the convenience store at midnight.
- The rich man has a \_\_\_\_\_ that drives him around.
- This school has an extremely good \_\_\_\_\_. Many students are fighting to get into the school.
- Charmaine \_\_\_\_\_ from work as she wanted to have more time to take care of her sick mother.
- The chairman holds the highest \_\_\_\_\_ in the company.
- My grandfather \_\_\_\_\_ at the age of sixty.

PRIMARY - ENGLISH VOCABULARY PRACTICE

**PRACTICE 70**

Fill in the blanks with the correct words from the box. Use each word only once.

fight    vital    superlative    ability  
 greatly    prepare    talent    repair

Sleep plays a very important role in our lives. Although some people may feel that sleep is redundant, research has shown that sleep plays a \_\_\_\_\_ role in our health and well-being.

(1) \_\_\_\_\_ While we are sleeping, our brains and bodies get a chance to rest and \_\_\_\_\_ for the next day. Studies have shown that a good night's sleep improves our learning. \_\_\_\_\_ Sleep improves our attention span and helps us become more creative.

Sleeping also helps to improve our physical health. During our rest time, our bodies are able to \_\_\_\_\_ and heal body parts such as our hearts and blood vessels. Sleeping enough also \_\_\_\_\_ reduce our risk of obesity. Sleeping too little can result in less ideal growth and development. Being sleep deficient also reduces our immune system's ability to \_\_\_\_\_ off common infections and illnesses. \_\_\_\_\_

PRIMARY - ENGLISH VOCABULARY PRACTICE



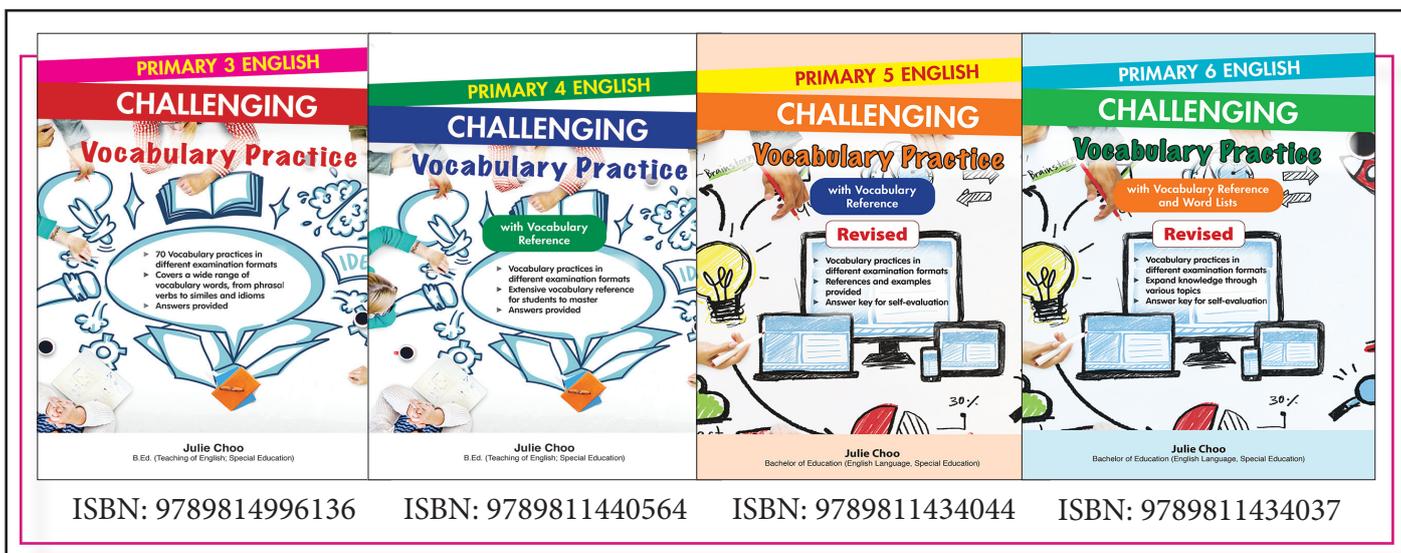
### Progressive Difficulty

As they build their vocabulary through the practices, they will encounter increasingly difficult questions to stretch their abilities.

# Challenging Vocabulary Practice

The main objective of the Challenging Vocabulary Practice series is to immerse the student in the joys of learning the wide range of English words. Vocabulary is indeed the 'colour' and 'music' of language and the wider one's range is, the better the mastery of the language.

It comprises questions on vocabulary, grouped according to distinct themes. The wide variety of visual and textual information is accompanied by a set of thought-provoking questions to set the student into the notion of in-depth thinking.



Vocabulary References		Vocabulary References - Occupations	
<p><b>Synonyms for overused words</b> Note: Usage depends on context</p> <p><b>big</b></p> <ul style="list-style-type: none"> <li>astronomical</li> <li>colossal</li> <li>enormous</li> <li>gargantuan</li> <li>gigantic</li> <li>great</li> <li>huge</li> <li>immense</li> <li>large</li> <li>mammoth</li> <li>massive</li> <li>spacious</li> <li>substantial</li> <li>vast</li> <li>voluminous</li> </ul> <p><b>small</b></p> <ul style="list-style-type: none"> <li>dainty</li> <li>delicate</li> <li>diminutive</li> <li>little</li> <li>miniature</li> <li>minuscule</li> <li>minute</li> <li>petite</li> <li>snuggly</li> <li>tiny</li> <li>undersized</li> </ul>	<p><b>good</b></p> <ul style="list-style-type: none"> <li>acceptable</li> <li>admirable</li> <li>adventurous</li> <li>angelic</li> <li>appetizing</li> <li>benevolent</li> <li>capable</li> <li>causing</li> <li>charitable</li> <li>commendable</li> <li>conscientious</li> <li>considerate</li> <li>decent</li> <li>delightful</li> <li>dependable</li> <li>efficient</li> <li>enjoyable</li> <li>ethical</li> <li>excellent</li> <li>exemplary</li> <li>expert</li> <li>fabulous</li> <li>fantastic</li> <li>favourable</li> <li>fine</li> <li>friendly</li> <li>gracious</li> <li>gratifying</li> <li>hard-working</li> <li>helpful</li> <li>honest</li> <li>honourable</li> <li>humane</li> <li>incredible</li> <li>just</li> </ul>	<p><b>Occupations</b></p> <ul style="list-style-type: none"> <li>accountant: one who manages a record of debts and credits</li> <li>acrobat: one who performs daring stunts</li> <li>actor/actress: one who plays a character in a drama</li> <li>actuary: one who makes the calculations connected with insurance</li> <li>admiral: one who commands a fleet of warships</li> <li>advertiser: one who advertises</li> <li>agronomist: one who is skilled in growing crops</li> <li>ambassador: one who looks after the comfort of passengers in an aircraft</li> <li>ambulance driver: one who looks after the injured</li> <li>ambulance attendant: one who gives anaesthetic to patients before operations so they will not feel pain</li> <li>anatomist: one who is skilled in the science of the body structures of organisms</li> <li>announcer: one who reads the news and other information over radio or television</li> <li>anthropologist: one who studies human origins and evolution of human customs and beliefs</li> <li>antiquarian: one who studies, collects or sells relics of the past</li> <li>appliance repairer: one who is attached to someone to learn or trade</li> <li>archaeologist: one who looks after historic records, documents, etc.</li> <li>architect: one who plans the design of buildings and oversees their construction</li> <li>artist: one who is skilled in painting and drawings</li> <li>athlete: one who brings pleasure or acts professionally</li> <li>athlete: one who competes in sports</li> <li>astrologer: one who forecasts events by studying the stars</li> <li>astronaut: one who is engaged in space travel in a space vehicle</li> <li>athlete: one who is a competitor in bodily exercises such as running and jumping</li> <li>auctioneer: one who sells goods in public to the person who offers the most money for it</li> <li>author: one who writes literary works</li> <li>baker: one who produces bread</li> <li>banker: one who engages in the business of banking</li> <li>barber: one who trims and styles men's hair</li> <li>bartender: one who mixes and serves drinks at a bar or hotel</li> <li>bailliff: one who works in a hotel, carrying the luggage of guests to their rooms</li> <li>biographer: one who writes an account of a person's life</li> <li>biologist: one who is an expert in the science of living things</li> <li>blacksmith: one who makes things out of iron</li> <li>bodyguard: one who guards and protects an important person</li> <li>bookkeeper: one who keeps accounts systematically</li> <li>botanist: one who is an expert in the scientific study of plants</li> </ul>	

## Vocabulary References

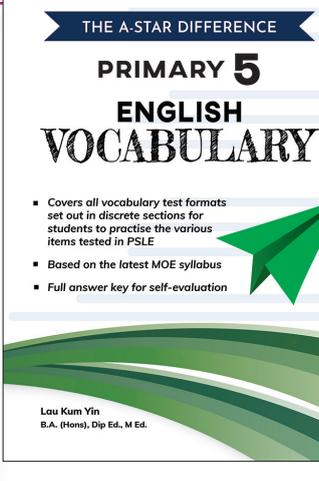
Vocabulary References are provided for students to expand their vocabulary and learn the meaning of each word.

<p><b>Challenging Practice 19 - Vocabulary Cloze</b></p> <p>Fill in the blanks in the passage below:</p> <p>There are more than 3,000 types of (1) _____ that are grown around the world. They come in various (2) _____ and sizes.</p> <p>About 5,000 years ago, Egyptians (3) _____ mushrooms as 'magic food'. They believed that they could (4) _____ immortality by eating them. Only the pharaohs had the privilege of eating mushrooms. Common people were not (5) _____ to enjoy this food like their kings.</p> <p>In other ancient civilisations, people believed that mushrooms had a special ingredient that could produce superhuman strength. Over the years, the (6) _____ for mushrooms gradually (7) _____. This led to the establishment of mushroom farms which cultivated and grew these fungi in a special (8) _____.</p> <p>By the 1940s, most of the mushrooms came from the Far East, mainly China and Japan. (9) _____ the second World War, American soldiers (10) _____ many delicious mushrooms and learnt about mushrooms. (11) _____ They brought this (12) _____ back to the United States after the war. Since then, the country has become one of the world's major mushroom producers.</p> <p>Not all mushrooms are (13) _____. Some are poisonous. Mushrooms that are found in grocery stores are safe to eat. These mushrooms are (14) _____ recommended by (15) _____ because they are cholesterol-free and low in calories.</p>	<p><b>Challenging Practice 66 - Confusing Words</b></p> <p>Fill in the blanks with the correct word.</p> <ol style="list-style-type: none"> <li>1. moral, morale The _____ of the story is meaningful and this story gave us a good boost to our _____.</li> <li>2. excess, access No one can _____ the information unless they are the director. There is an _____ of food in the refrigerator.</li> <li>3. adopt, adapt We must always try to _____ ourselves to the environment we are in. I would like to _____ a puppy as I need a companion.</li> <li>4. desert, dessert The largest _____ is the Sahara. I love eating _____ after dinner.</li> <li>5. principal, principle The _____ of this science lesson is that 'Light travels in straight line'. My _____ was proud that I had won the contest.</li> <li>6. loose, lose There is a _____ piece of rope hanging from the ceiling. I think I might _____ the competition to James.</li> <li>7. personal, personnel The government _____ will be asking you for the documents. This is my _____ computer.</li> </ol>
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## Challenging Practices

Exposes students to a wide range of vocabulary in different contexts.

# The A-star Difference Vocabulary

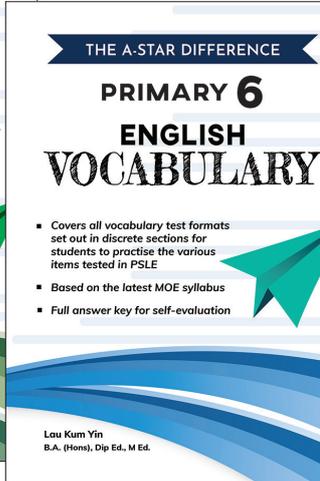


**THE A-STAR DIFFERENCE**  
**PRIMARY 5**  
**ENGLISH**  
**VOCABULARY**

- Covers all vocabulary test formats set out in discrete sections for students to practise the various items tested in PSLE
- Based on the latest MOE syllabus
- Full answer key for self-evaluation

Lau Kum Yin  
B.A. (Hons), Dip Ed., M Ed.

ISBN: 9789814996259



**THE A-STAR DIFFERENCE**  
**PRIMARY 6**  
**ENGLISH**  
**VOCABULARY**

- Covers all vocabulary test formats set out in discrete sections for students to practise the various items tested in PSLE
- Based on the latest MOE syllabus
- Full answer key for self-evaluation

Lau Kum Yin  
B.A. (Hons), Dip Ed., M Ed.

ISBN: 9789811494338

The A-star Difference English Vocabulary books aim to provide students with over a thousand vocabulary items used widely in tests. Some questions are deliberately set out to be self-learning.

Each book is divided into three sections that enhance students' awareness of key words and their meanings. In this way, their command of vocabulary will put them in the A-star category for English.

**CHAPTER 1**  
**NOUNS**

For each question from 1 to 10, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and write your answer in the brackets.

- Heidi did not get the job because her \_\_\_\_\_ were too low; she left school at thirteen.
 

1 associations	2 accents	3 qualifications	4 relations
----------------	-----------	------------------	-------------
- That childcare centre runs its program with \_\_\_\_\_ always using the latest concepts and following the recommendations of expert childcare professionals.
 

1 vigour	2 rigour	3 rigidity	4 composure
----------	----------	------------	-------------
- The audience was impressed by the choir's wide \_\_\_\_\_ of songs.
 

1 collection	2 repository	3 reservoir	4 repertoire
--------------	--------------	-------------	--------------
- "Who broke the bowl?" Mrs Tan demanded when she saw the \_\_\_\_\_ of glass on the floor.
 

1 shards	2 sheds	3 fragments	4 remnants
----------	---------	-------------	------------
- Li Ping bought a bright purple blouse on \_\_\_\_\_ but regretted it when she tried to wear it with her orange skirt.
 

1 impression	2 instinct	3 impulse	4 intuition
--------------	------------	-----------	-------------
- Some parents substitute \_\_\_\_\_ such as television for their children's mistakes. They think that their children are not entitled to enjoy themselves if they do not behave well.
 

1 rights	2 privileges	3 advantages	4 enjoyment
----------	--------------	--------------	-------------
- Jack bore the \_\_\_\_\_ of his father's temper and often had bad bruises after his father went drinking.
 

1 heat	2 attack	3 rage	4 penalty
--------	----------	--------	-----------
- In traditional China, many topics were \_\_\_\_\_ and girls especially could not speak about love and romance.
 

1 ban	2 ban	3 taboo	4 repression
-------	-------	---------	--------------
- The plucky little girl was so full of \_\_\_\_\_ that she ran the race even though she had only one leg.
 

1 nerve	2 grit	3 pain	4 guilt
---------	--------	--------	---------
- The notion that the Earth is flat is a common \_\_\_\_\_ and children do not know that it is a wrong idea.
 

1 misrepresentation	2 misjudgment	3 mistake	4 misconception
---------------------	---------------	-----------	-----------------

The A-Star Difference | 1

## Section A - Multiple-choice questions

The questions emphasise the importance of contextual clues which help students to learn and remember word collocations and specific nuances in meaning. Students will learn new words as well as understand why one word is preferred over others in a given context.

**CHAPTER 7**  
**CONFUSING WORDS**

**Exercise 1**  
Match the correct words from the box to the phrases/sentences that follow. Write 1, 2, 3 or 4 in the brackets.  
Use each word only once.

1 adjust	2 fluent	3 proficient	4 accomplished
----------	----------	--------------	----------------

- Susan is an \_\_\_\_\_ pianist. She plays the piano with the orchestra. ( )
- The linguist is \_\_\_\_\_ in many different languages. ( )
- Wendy is \_\_\_\_\_ in tennis and is on the school team. ( )
- Tom is \_\_\_\_\_ at fixing motor bikes and mechanical things. ( )

**Exercise 2**  
Match the correct words from the box to the phrases/sentences that follow. Write 1, 2, 3, 4 or 5 in the brackets.  
Use each word only once.

1 ample	2 adequate	3 substantial	4 sufficient	5 considerable
---------	------------	---------------	--------------	----------------

- The amount in the bank is \_\_\_\_\_ more than enough to pay the supplies. ( )
- There is \_\_\_\_\_ rice to cook one meal. ( )
- We have \_\_\_\_\_ supplies that will last us for longer than the six months we intend to stay here. ( )
- This cloth is \_\_\_\_\_ with nothing left for any errors. ( )
- The land is \_\_\_\_\_; no one else has such a big plot. ( )

**Exercise 3**  
Match the correct words from the box to the phrases/sentences that follow. Write 1, 2 or 3 in the brackets.  
Use each word only once.

1 replicated	2 consolidated	3 implicated
--------------	----------------	--------------

- This is a \_\_\_\_\_ design; it's exactly the same as the first one. ( )
- His brother is \_\_\_\_\_ because he was found near the scene of the murder. ( )
- The plan is so \_\_\_\_\_ that no one can understand it. ( )

The A-Star Difference | 61

**CHAPTER 8**  
**VOCABULARY IN CONTEXT**

For each question 1-5, choose the correct word(s) closest in meaning to the underlined word(s). Write (1, 2, 3 or 4) in the brackets.

**Exercise 1**

We set off in high spirits. At long last, both of us managed to wrangle some trees off (1) at the same time. It was pitch dark but our teeth (2) shone in the darkness when we grinned at each other. In the distance, the mountains (3) glimmered softly, making three layers of blackness, darker near the ground and lighter towards the heavens. We made for the first opening that was the mouth of the famed Goa Tunnels. It was (4) well-lit, and the heat of our noses on our stomachs through the (5) hazy passage that was exactly like the inner ear. The earthy smell of the cave enveloped us as we penetrated deeper into the mountain.

1) 1 exactly	2 instantly	3 simultaneously	4 diagonally
2) 1 glittered	2 gleamed	3 glimmered	4 glistened
3) 1 gleamed	2 glimmered	3 shimmered	4 glowed
4) 1 justly	2 acceptably	3 feebly	4 aptly
5) 1 consulted	2 disheavoured	3 confronting	4 impassable

**Exercise 2**

How do people get into such a pitiful state? Many homeless people lose their jobs to begin with and then they reside with drugs and alcohol. (1) In a spirit, they cannot afford rent. Some have mental illness and their families abandoned them. For others, the streets are (2) job places compared to what they left behind. How do we (3) solve this problem? While governments can build low cost homes, private organizations should also do their part. They can help provide in-services (4) housing for the needy and job training for the street people to (5) obtain the skills they need to get long term jobs.

1) 1 Consequently	2 Subsequently	3 Alternatively	4 Moreover
2) 1 hotels	2 hovels	3 havers	4 hospices
3) 1 tackle	2 manage	3 coordinate	4 organize
4) 1 villas	2 accommodations	3 hostels	4 burglarious
5) 1 maintain	2 sustain	3 require	4 accrue

The A-Star Difference | 71

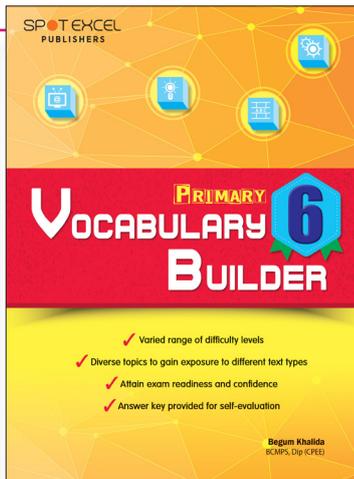
## Section B - Commonly confused words

This self-explanatory section helps students remember when and how to use the word. The exercises do not set out to mislead but to guide. Each option can be used only once and if one mistake is made, it means that another sentence has the wrong answer as well.

## Section C - Text-based exercises

Many of the connecting devices in language are tested in this section. Many of the adverbial forms that make up the "ly" words are in this section too.

## P6 Vocabulary Builder

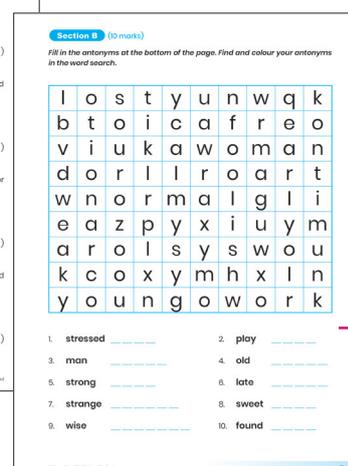
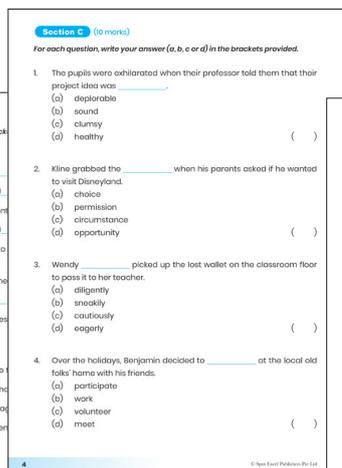
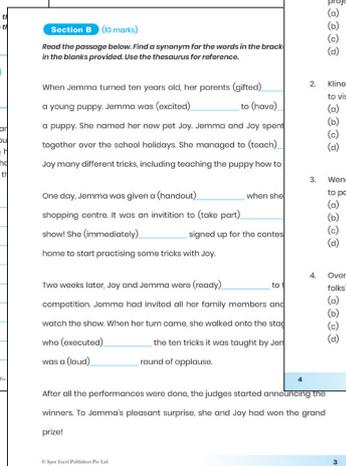
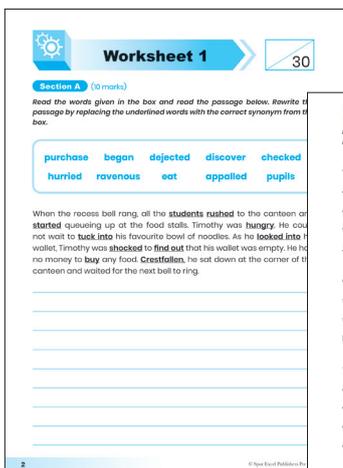
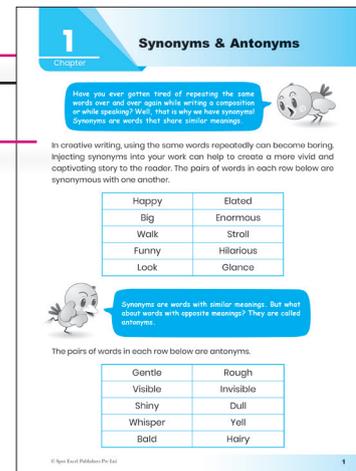


ISBN: 9789811806377

Primary 6 Vocabulary Builder focuses on building up the vocabulary skills of students preparing for their PSLE. This book is structured to help students develop skills and confidence in creative writing, vocabulary cloze practices and vocabulary MCQ. It contains passages with diverse topics to give students exposure to different text types and to equip them with the necessary skills to answer a wide range of questions.

### Introductions

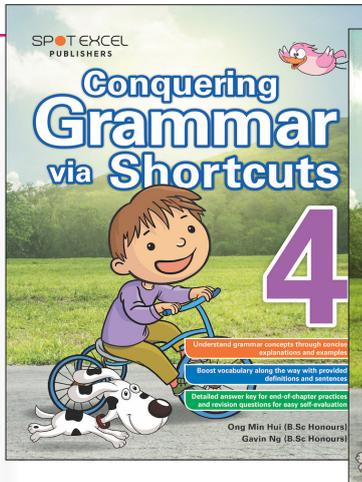
Each chapter introduces the topic with explanations and examples for better understanding of the application of the different text types.



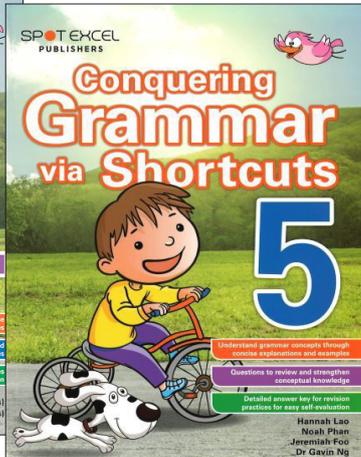
### Worksheets

The worksheets of various question types come with scores for students to easily gauge their performance for the topic. Non-examination format type of questions are also included to make learning more interesting.

# Conquering Grammar via Shortcuts



ISBN: 9789811164347



ISBN: 9789811176913

These books offer guidance in strengthening students' foundation in English in terms of grammar. They offer clear and concise explanations of grammar concepts based on everyday usage of spoken and written English. In addition, tips and explanations are also included to build their vocabulary as they work their way through these books.

### 1 Nouns - Introduction

**What is a noun?**  
A noun can be a person, an animal, a place, or even an idea that you have in your head.

Let us look at some examples of nouns. Look at the example given to you, and try to come up with three other examples on your own.

Person	Examples
teacher, fireman, mother	
Animal	dog, cat, cow
Place	park, school, hospital
Thing/object	plate, spoon, bag
Idea	rules, love, happiness

**\*What is an idea?**  
An idea can refer to a real idea you have for something, but it can also be a fantasy, or even a concept. Unlike other objects like animals or things which you can physically touch, ideas and concepts cannot be touched. We will go through this again in a later section under abstract nouns.

Let us now try to identify nouns in sentences.

Example:  
Lionel brought some cards to play in school.

What is Lionel? Lionel is a person.  
Recall: Is a person a noun? Yes!  
Hence, Lionel is a noun.

What are cards? Cards are an object that students go to everyday to study.  
Recall: Are objects are nouns? Yes!  
Hence cards are a noun.

What is a school? A school is place that students go to everyday to study.  
Recall: Are places are nouns? Yes!  
Hence school is a noun.

### 1 NOUN PHRASES

A noun is a word that names a person, place, thing or idea.

A noun phrase is a noun with a modifier which distinguishes it.

A noun phrase can come before or after the noun.

Modifiers that come before a noun might include articles, possessive nouns, possessive pronouns, adjectives, and/or participles.

There are only three articles: a, an and the. Some examples of noun phrases with an article as the modifier:

a goldfish      the car      an umbrella

Possessive nouns are nouns with an apostrophe and an 's' to the noun. If the noun already ends with an 's', an apostrophe is added after the 's'.

Some examples of noun phrases with a possessive noun as the modifier:

Sarah's dress      the children's toys      Charles' daughter

Possessive pronouns are pronouns indicating possession of the noun. Some examples of possessive pronouns are mine, yours, his, hers, its, ours, yours, and theirs.

Some examples of noun phrases with a possessive pronoun as the modifier:

our sister      her computer      their school bags

## Explanations with Examples

Explanations are accompanied by examples when introducing topics so that concepts are easier for students to visualise.

## Revision Practices

Revision practices are provided for students at the end of each topic to revise and cement concepts learnt.

### NOUNS

Person	Examples
teacher, fireman, mother	
Animal	dog, cat, cow
Place	park, school, hospital
Thing/object	plate, spoon, bag
Idea	rules, love, happiness

1. I bought a new sweater for my mother at the mall last night.
2. My grandmother went to the market to buy some fresh seafood.
3. Please keep the books and stationery neatly in your desk.
4. Sarah wanted to bring her sister to the zoo to pet the little rabbits.
5. You should be driving your car more cautiously especially in the heavy rain.
6. I bought a new sweater for my mother at the mall last night.
7. My grandmother went to the market to buy some fresh seafood.
8. Please keep the books and stationery neatly in your desk.
9. Sarah wanted to bring her sister to the zoo to pet the little rabbits.
10. You should be driving your car more cautiously especially in the heavy rain.

**PROPER AND COMMON NOUNS**

1. My grandmother went to the market in the morning to buy some fish.
2. The teacher told his students to bring their books to the library.
3. Don't drink alcohol if you would want to have a long and healthy life.
4. The dog was barking so loudly that I quickly opened my umbrella to block the sunlight.
5. I bought a new sweater for my mother at the mall last night.
6. My grandmother went to the market to buy some fresh seafood.
7. Please keep the books and stationery neatly in your desk.
8. Sarah wanted to bring her sister to the zoo to pet the little rabbits.
9. You should be driving your car more cautiously especially in the heavy rain.
10. I bought a new sweater for my mother at the mall last night.

**COUNTABLE AND UNCOUNTABLE NOUNS**

1. countable
2. uncountable
3. uncountable
4. uncountable
5. uncountable
6. uncountable
7. uncountable
8. uncountable
9. uncountable
10. uncountable

### NOUNS

Fill in the boxes the category that each noun should belong to.

1. My grandmother went to the market to buy some fresh seafood.
2. Remember to return the money to your brother before he leaves the house.
3. Please keep the books and stationery neatly in your desk.
4. Sarah wanted to bring her sister to the zoo to pet the little rabbits.
5. I bought a new sweater for my mother at the mall last night.
6. You should be driving your car more cautiously especially in the heavy rain.

### NOUN PHRASES

Write a noun phrase with each noun given below.

1. cat
2. house
3. shoe
4. chair
5. library

Add modifier words to each noun given below to create a noun phrase.

Example: My black coach gave me an award.

Answer: My black coach gave me an award.

1. The small child was disruptive at the library.
2. The old horse galloped around the field.
3. I took the chocolates away from the child.
4. We walked to the farm during the holidays.
5. The park was open until seven in the evening.

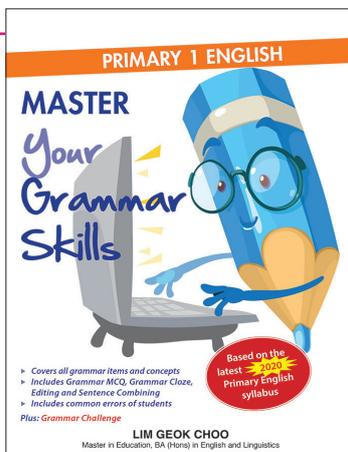
## Answer Key

Answers are provided for students to do self-marking or for parents to check.

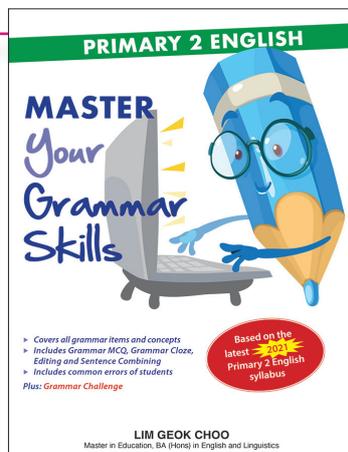
## Mastering Grammar Skills

Each book in this series contains the following features:

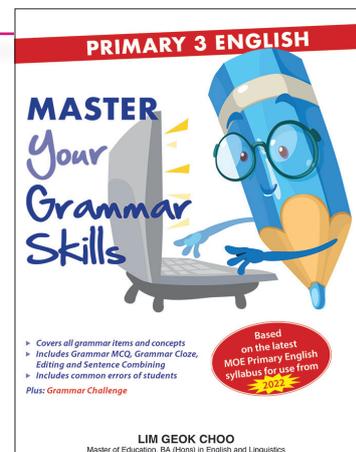
- Covers all grammar items and concepts required by the Primary English syllabus issued by the Ministry of Education, Singapore
- Comprehensive grammar exercises and tests on Grammar MCQ, Structural Cloze, Editing, and Synthesis and Transformation
- Exercises based on the latest CA/SA format clearly identified
- Includes definitions, explanations and examples of grammar concepts
- Includes common errors students make in grammar exercises



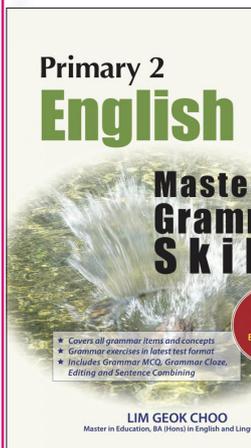
ISBN: 9789811434051



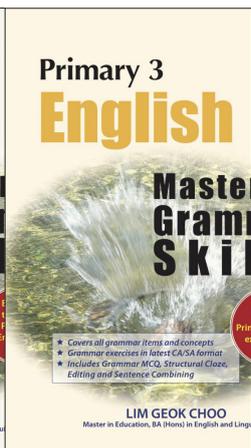
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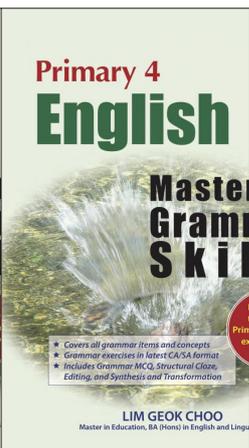
ISBN: 9789814996372



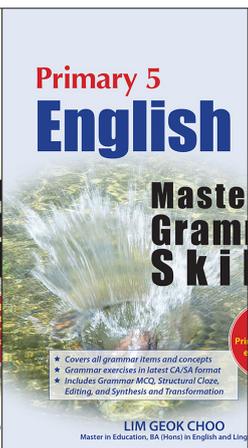
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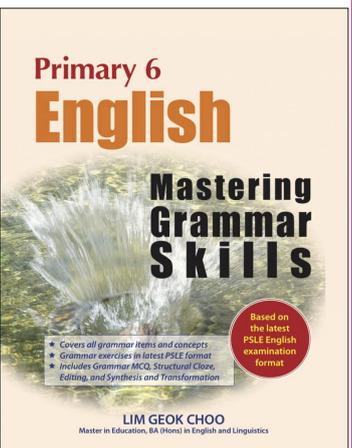
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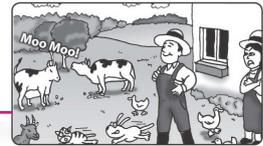
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# Introduction

An attractive visual stimulus introduces the grammar item or concept. This is followed by relevant definitions and explanations with examples to make the abstract grammar concepts more concrete and easier for learning.

**Unit 1 Nouns**

**Introduction**



Mr **Ang** is a **farmer**. This is his **farm**. There are two **cows** on his **farm**. They are playing in the **mud**. Mrs **Ang** is angry with them.

The highlighted words are called **nouns**.  
 Definition ► **Nouns** are words we use for animals, people, places and things.  
 Some of them are common nouns and some are proper nouns.  
 Definition ► **Common nouns** are words we use for animals, people, places and things. In the story, the words **farmer**, **farm**, **cows** and **mud** are common nouns.

Mastering Grammar Skills Primary 3

**Exercise 11**

Fill in each blank with **into** or **onto**. The first one has been done for you.

1. My wallet fell out of my pocket **onto** the floor.
2. The children jumped \_\_\_\_\_ the pool to swim.
3. The baby spilled some milk \_\_\_\_\_ its clothes.
4. When you walk \_\_\_\_\_ the room, you will see the table and chairs.
5. Put everything \_\_\_\_\_ your bag before you leave the room.

**Common Errors to Avoid**

Be careful when using the words **passed** and **past**. **Passed** is a word in the past tense. It is not a preposition like **past**.

It is wrong to say We walk **passed** the shop. It is correct to say We walk **past** the shop.

**Exercise 12**

Fill in each blank with **passed** or **past**. The first one has been done for you.

1. My coins from my wallet rolled **past** the door.
2. The children ran \_\_\_\_\_ the bus stop.
3. I was so busy that I did not see a bee fly \_\_\_\_\_ me.
4. Phil \_\_\_\_\_ the flag to a member of his team.
5. The children \_\_\_\_\_ their books to their friends.

# Common Errors

Tips are given to warn students about common errors that they should avoid when they attempt exercises on grammar.

# Exercises

Short grammar exercises on a specific item or concept are included to provide students with immediate practice. Exercises in the Continuous Assessment (CA) and Semestral Assessment (SA) formats are given so that students can apply what they have just learnt about specific grammar items in the individual units.

**Linking verbs**

**Exercise 1**

Look for 5 linking verbs in the sentences below and circle them. The first one has been done for you.

1. **am** in the kitchen with Grandma.
2. There are many things on the table.
3. Grandma is going to cook.
4. Do you like dumplings?
5. I have some dumplings for you.

**Exercise 2**

Read the rules to fill in the blanks with **is**, **are** and **am** correctly. The first one has been done for you.

**Rule 1** When the subject is **singular** (only one), use **is**.  
**Rule 2** When the subject is **I**, use **am**.  
**Rule 3** When the subject is **you** or **plural** (more than one), use **are**.

1. You **are** a great cook.
2. I \_\_\_\_\_ excited.
3. She \_\_\_\_\_ making dumplings.
4. Grandma \_\_\_\_\_ teaching me to cook.
5. The dumplings \_\_\_\_\_ ready!



**Connectors for Contrast**

We use **but**, **though** and **although** to connect sentences with different or opposite meanings.

Example 1 I love experiments. I dislike tests.  
 One sentence is about liking something and another sentence is opposite, about disliking something.  
 I love experiment **but** I dislike tests.

Example 2 I wanted to give a magnet to Jerry. He did not accept it.  
 The second sentence gives an unexpected outcome.  
**Although** I wanted to give a magnet to Jerry, he did not accept it.  
 I wanted to give a magnet to Jerry **but** he did not accept it.  
**Though** I wanted to give a magnet to Jerry, he did not accept it.

**Exercise 4 – Synthesis**

Use **but** to combine each pair of sentences. The first one has been done for you.

1. The north pole of my magnet attracts the south pole of your magnet. It repels the north pole of your magnet.  
 The north pole of my magnet attracts the south pole of your magnet but repels its north pole.
2. The magnet attracted the metal clips. It did not attract the plastic clips.
3. I like experiments very much. I do not like tests at all.

# Tests

At the end of the guide, students can attempt mock tests that assess grammar items and concepts across several units, just like in their school CA and SA papers.

Section E: Sentence Completion and Combining (6 marks)

Match and join the two parts to form a question. (1 mark each)

Column A	Column B
20. Who •	- happened to my pencil?
21. What •	- does school start every day?
22. When •	- is he talking to?

Join the sentences using the words in bold. The meaning of your sentence must be the same as the meaning of the given sentences. (1 mark each)

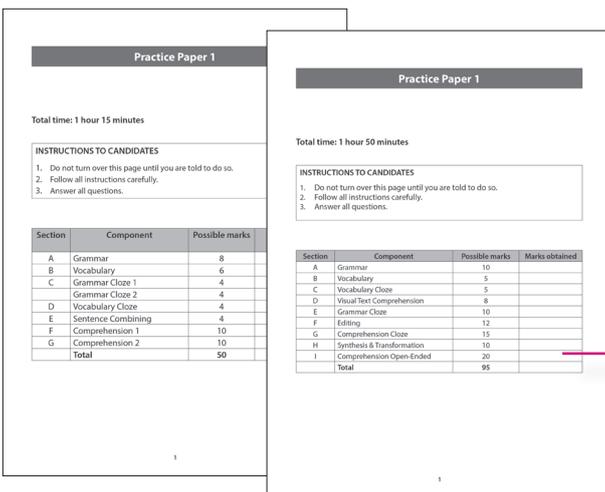
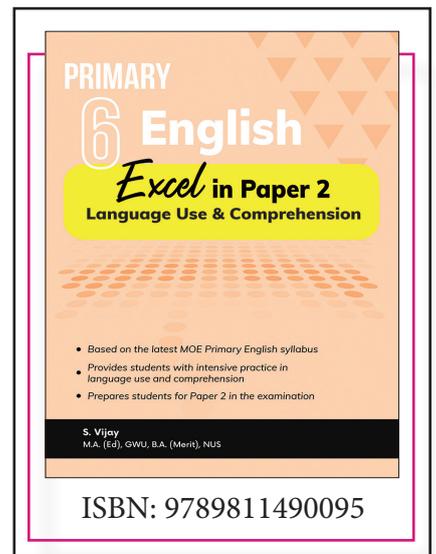
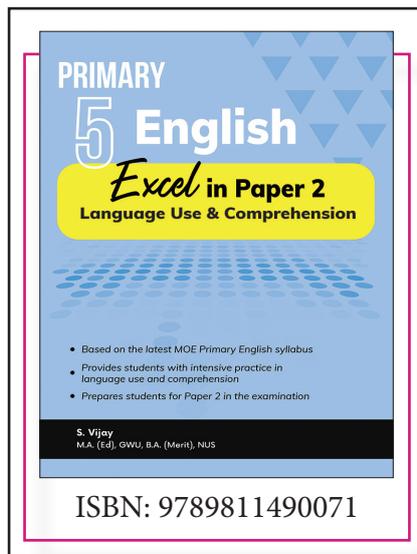
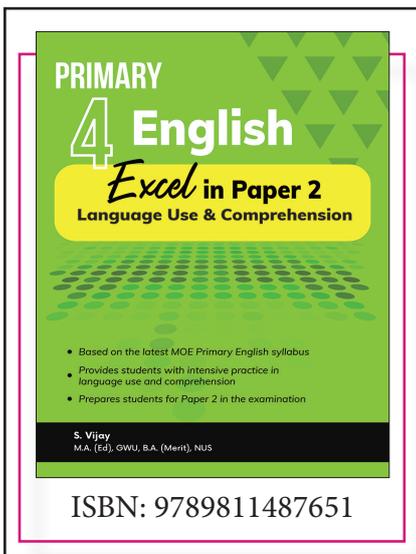
Example Andy played soccer. Andy also played basketball.  
 Andy played soccer **and** basketball.

23. Cinderella was sad. Cinderella did not cry or complain.  
 \_\_\_\_\_ **but** \_\_\_\_\_
24. Look left, right and left again. Then, you cross the road.  
 \_\_\_\_\_ **before** \_\_\_\_\_
25. Move the glasses and bottles. Be careful.  
 \_\_\_\_\_ **with** \_\_\_\_\_

# Excel in Paper 2

## Language Use & Comprehension

This series is written based on the latest Primary English syllabus issued by the Ministry of Education, Singapore. There are eight practice papers in each book, designed for students who are looking for rigorous practice before the examinations, or those who want to consolidate their learning and gauge their level of English language proficiency. Students will not only get accustomed to completing their work under examination conditions, but also reinforce what they have learnt, expand their knowledge and be amply prepared for their examinations.

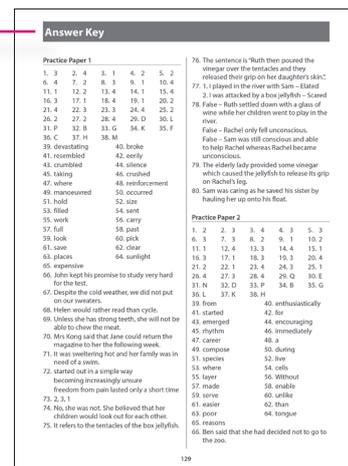


### Variety of Questions

Modelled after the latest assessment formats, students will encounter questions that check their understanding of what is taught in schools as well as challenging questions that will extend their learning beyond the classroom.

### Answer Key

Answers are provided for students' self-evaluation.



# English Comprehension Practice

The central purpose of this series is to provide students with the vital skills to comprehend English texts and take on comprehension questions with confidence. It builds a strong foundation through the use of interactive questions and stimulating passages to immerse them in active learning. The interdisciplinary element of this series engages students with its passages on various topics of interest, both fiction and non-fiction.

Primary 1 ISBN: 9789811487668

Primary 2 ISBN: 9789811487675

Primary 3 ISBN: 9789811499180

Primary 4 ISBN: 9789811499197

Primary 5 ISBN: 9789814996143

Primary 6 ISBN: 9789814996129

**Comprehension Practice 1**

Read the passage below and answer the questions that follow.

One day, while Lily was playing in the park, she saw a short tree with a bird's nest resting on its branches. Lily tiptoed and investigated the nest and saw three pretty blue eggs.

As Lily curiously looked on, the eggs started quivering and cracking. Lily was thrilled! She saw tiny birds hatch out of the eggs slowly. Once they were out, they started chirping noisily. At once, the mother bird flew back to her nest and fed her chicks with some worms. As it was getting late, Lily returned home.

Every day, Lily stopped over at the park to check on the chicks. They grew stronger and bigger every day. One day, Lily went to visit the nest and found it empty. Where were the chicks?

Lily told her mother about the empty nest. Her mother explained that chicks learn to fly and would eventually leave their mother's nest to build a nest of their own. Lily was glad that the chicks had learnt to fly but was also glum that she could not see them anymore.

**Word Bank**  
quiver  
check on  
glum

**Comprehension Practice 1**

Read the passage below and answer the questions that follow.

Dugg the slug lived in the garden. He loved to munch on the leaves in the bushes and visit his snail friend.

But he was unhappy that he did not have his own shell to live in. He lived under a boring, black rock. Dugg wanted to have his own shell.

So, he went to his friend, Abigail. Abigail was a snail that had a big, beautiful shell. Dugg cried to Abigail that he wanted a shell too.

After listening to Dugg, Abigail brought him to the back of the garden. There were lots of shiny, brown shells in a pile. Dugg was extremely happy!

**Word Bank**  
munch  
boring  
pile

**Questions**

1. What does Dugg like to do in the garden?

## Word Banks

New vocabulary is highlighted for each comprehension passage.

## Creative Exercises

There are 60 comprehension practices in each book, with creative exercises designed to enrich students' comprehension skills and vocabulary.

Primary 2 English Comprehension Practice

**Questions**

1. Where was the nest located? Tick your answer.

On the roots of a short tree at the park

On the branches of a short tree at the market

On the branches of a short tree at the park

At the bicycle station under the block

2. Why was Lily thrilled when the eggs started to quiver?

The eggs were dancing.

The eggs were starting to hatch.

The mother bird was waiting to feed the chicks.

She could not wait to see the chicks after the eggs had hatched.

3. How do you think Lily felt when she found the bird's nest empty?

4. Why was the nest empty? Fill in the blanks.

The \_\_\_\_\_ was empty because the chicks had learnt to \_\_\_\_\_. They have left their \_\_\_\_\_ nest and have flown away to \_\_\_\_\_ a nest of their own.

Primary 1 English Comprehension Practice

3. How do they build the sandcastle? Match the action correctly to the person.

Sandy •  Fill the pail with sand

Sam •  Turn the pail over and lift it

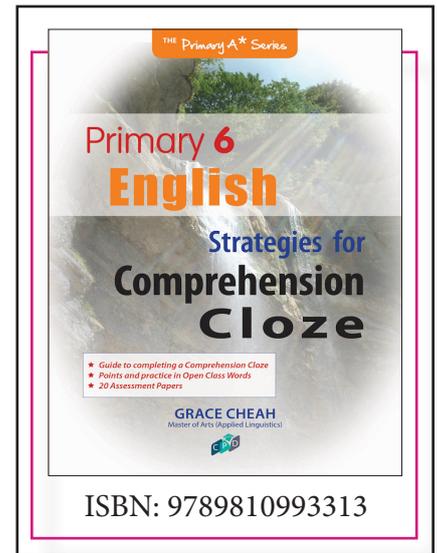
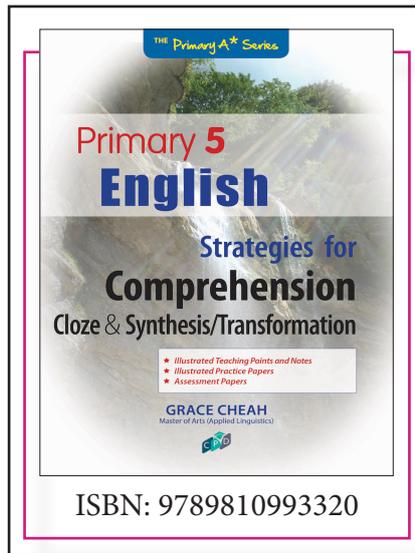
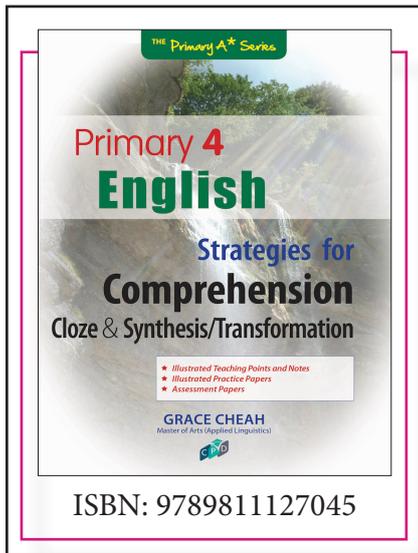
Collect shells to decorate the sandcastle

4. What happens in the afternoon?

5. Draw a picture of Sam and Sandy at the beach.

# Strategies for Comprehension Cloze

This series is designed to prepare students for the comprehension cloze in their semestral assessments. Students who are successful at comprehension cloze are those who are able to use their existing knowledge of both language and subject matter.



Primary 4 English Strategies for Comprehension Cloze

**Exercise 8 - Adverbs, Verbs and Nouns**

Comprehension Cloze 8

Teaching Points



1. Read the text.

Coney Island Park is located on the offshore Coney Island. The park is accessible via two bridges, one linked to Punggol and the other to Pasir Ris. The entire route is only 2.4 kilometres so visitors can easily complete the trail on foot. If they cycle, they can explore Coney Island at a faster pace.

An innovative approach to recycling waste materials is the playground at Casuarina Exploration. Constructed from the bunks of uprooted Casuarina trees, recycled sand and other natural materials, the playground features four different stations appropriately named Caterpillars, Earthworm and Millipede. Visitors of all ages will enjoy keeping their balance as they cross from one station to another.

There is an abundance of butterflies, lizards and mudskippers. Wildlife consists of a resident cow and wild boars which may hide from people. Access to five different beach pockets is free. Bird watchers will be thrilled to camp at the bird watching hideout and observe bird activities closely. More than 80 species of birds including migratory birds have been photographed at Coney Island Park.

2. Fill in each blank with a **noun**, a **verb** or an **adverb**.

Example:

Word	Open class words
park	noun
explode	verb
across	adverb

(a) \_\_\_\_\_ is accessible from Punggol and Pasir Ris.  
 (b) Cyclists can cover the 2.4 kilometre \_\_\_\_\_ to Coney Island \_\_\_\_\_ than those who walk.  
 (c) You can cycle or walk \_\_\_\_\_ the bridge at Punggol that \_\_\_\_\_ Coney Island to the mainland.  
 (d) Recyclable materials were used to \_\_\_\_\_ the playground at Casuarina Exploration.  
 (e) The stations at Casuarina Exploration are named after \_\_\_\_\_.  
 (f) Visitors who \_\_\_\_\_ at the bird-watching hideout can watch birds.  
 (g) An attraction to the island is an \_\_\_\_\_ of birds, insects and fish.

## Open Word Classes

The guide begins with a recapitulation of Open Word Classes learnt in the classroom: nouns, verbs, adjectives and adverbs. This is followed by examples of contextual clues and connectors that students can make use of when completing a cloze passage.

## Examples

Examples are provided with explanations so that students can get a better understanding of concepts taught.

Primary 4 English Strategies for Comprehension - Cloze & Synthesis/Transformation

**Exercise 18 - Choice**

Teaching points

We use **either** and **neither** to refer to two people, things or their qualities.

Examples: You are at the bookshop selecting a book for your brother's birthday. The salesperson shows you two books and says:  
**Both** books are cheap.  
**Neither** book is expensive.

**Neither ... nor** is the opposite of 'both'.

Example: **Neither** Roy **nor** his brother **likes** singing.  
 (Meaning: Both Roy and his brother do not like singing.)

**Either ... or** is used when referring to a choice between two things or possibilities.

Examples: I don't like **either** tea or coffee. (two things)  
 The class can **either** read now or after recess. (2 possibilities)

**Neither ... nor** is used when two or more things are not true.

Example: **Neither** Sue **nor** her sister plays the piano.

**Which verb do we use: Singular or Plural Verb?**

If both subjects are singular, then the verb is singular.

Examples: **Either** your father **or** mother **has** to sign your report book.  
**Neither** Mr Tan **nor** his wife is attending the concert.

If one of the subjects is singular and the other, plural, the verb must agree with the subject closest to it.

Examples: **Either** the twins **or** Joe **prepares** tea every Saturday.  
**Either** Joe **or** the twins **prepare** tea every Saturday.  
**Neither** the students **nor** their teacher **was** in the classroom this morning.  
**Neither** the teacher **nor** the students **were** in the classroom this morning.

**Either ... or** with a negative verb can replace **neither ... nor** with a positive verb.

Example: I don't like **either** tea or coffee.  
 I like **neither** tea **nor** coffee.

Primary 4 English Strategies for Comprehension - Cloze & Synthesis/Transformation

Comprehension Cloze - Teaching Points and Practice

**Exercise 6 - Adverbs**

Comprehension Cloze 6  
Teaching Points



1. Read the text.

Birds are created to fly and to be with others of their kind in a natural environment. They make their homes in trees in the forest or city. If separated from their flock, they call wildly to their flock mates. Other than flying, birds preen each other, feed, mate, build nests and take care of their brood. They are never alone. Many species of birds mate for life.

No bird was born to live in a cage. Yet people keep birds as a hobby. A bird owner feeds his bird and cleans the cage regularly. He also takes his bird outdoors to stretch its wings. However, new bird owners soon find out that birds need more attention than they think. If they are kept in a cage for too long, they become bored and behave abnormally.

Birds often display their frustrations by screaming, biting or being difficult. Others become aggressive and self-destructive. They pull out their feathers, pace back and forth, peck at cage bars, and shake or even collapse from anxiety.

On the other hand, some bird owners succeed in interacting with their pets. Bonding makes birds well-adjusted and well-behaved. Nevertheless, the bird will still escape if it has the chance. It is sad that caged birds pass away years before they would have in the wild.

2. Fill in each blank with an adverb.

(a) Birds live in flocks in the wild. They are \_\_\_\_\_ alone.  
 (b) Birds must be fed and their cages cleaned \_\_\_\_\_.  
 (c) If birds are left alone for too long, they begin to behave \_\_\_\_\_.  
 (d) Birds are well-behaved when their owners \_\_\_\_\_ interact with them.

24

(e) When taken \_\_\_\_\_ by their owners, some birds may try to escape.  
 (f) Even when well-treated, caged birds will \_\_\_\_\_ long for freedom.  
 (g) Birds in the wild have a life span of about a hundred years while caged birds die years \_\_\_\_\_ their time.

Practice Paper 6 (15 marks)  
Pre-activity



1. Do you keep fish? If not, do you have a pet? \_\_\_\_\_
  2. How do you take care of your pet? \_\_\_\_\_
  3. Look at the aquarium above. How did the owner decorate it? \_\_\_\_\_
  4. How would you decorate an aquarium if you own one? \_\_\_\_\_
- 25

## Exercises

Each exercise has two components: Teaching Points and Practice Paper. Students are advised to answer the questions in the 'Pre-activity' section which is a 'warming up' activity before they complete a cloze passage.

## Assessment Papers

10 assessment papers are included for students to apply the skills they have acquired.

Primary 4 English Strategies for Comprehension Cloze

Assessment Paper 6 (15 marks)

Pre-activity



1. Do you waste food at home and at hawker centres? \_\_\_\_\_
2. Why is it wrong to waste food? \_\_\_\_\_
3. "Food waste impacts the environment." Can you explain the statement? \_\_\_\_\_
4. How can we try to cut down food waste? \_\_\_\_\_

58

Assessment Paper 6 (15 marks)

Assessment  
Fill in each blank with a suitable word.

Every day food waste is generated in Singapore by wet markets, supermarkets, hawker centres, restaurants and homes. Food is wasted when there is improper (1) \_\_\_\_\_ or handling, resulting in food spoilage. Leftovers from cooking are disposed of rather than kept (2) \_\_\_\_\_ for the next meal. Food that has passed the (3) \_\_\_\_\_ date by a day or two is not consumed. At wholesalers, vegetables are trimmed to (4) \_\_\_\_\_ them for sale at the wet markets and supermarkets. Fruits are discarded if they show the slightest damage.

(5) \_\_\_\_\_ food after buffets or celebrations end up as food waste. The full shelf (6) \_\_\_\_\_ of cakes, bread and pastries at most bakeries increase the likelihood of purchase. However, (7) \_\_\_\_\_ ones are thrown away at the end of the day. All waste goes into the (8) \_\_\_\_\_ plants which emit greenhouse gases into the environment.

For this (9) \_\_\_\_\_, we should encourage people to reduce food loss. Families can buy food supplies in bulk to save (10) \_\_\_\_\_. However, they should plan a shopping list so that they do not (11) \_\_\_\_\_. Leftover food can be recycled or (12) \_\_\_\_\_ with neighbours. Restaurants should not overstock food that may (13) \_\_\_\_\_ have to be thrown away. Surplus food can be (14) \_\_\_\_\_ by volunteers and redistributed to the poor.

Cleaners and stallholders at hawker centres will be (15) \_\_\_\_\_ to operate food waste recycling machines which can recycle food waste to either water or compost. It is part of the Government's efforts to aim for zero waste and help save the environment.

Before you begin, check the tense of the text.

1. _____	6. _____	11. _____
2. _____	7. _____	12. _____
3. _____	8. _____	13. _____
4. _____	9. _____	14. _____
5. _____	10. _____	15. _____

Score: \_\_\_\_\_ / 15

59

## Synthesis/Transformation

This section in the Primary 4 and 5 books covers the use of connectors to join sentences, word formation which requires learners to convert one word class to another or add prefixes or suffixes, and changing of direct speech to reported speech and vice versa.

Primary 4 English Strategies for Comprehension - Cloze & Synthesis/Transformation

Synthesis/Transformation 7

Rewrite the sentence(s) given, using the word(s) provided. Your answer must be in one sentence. The meaning of your sentence must be the same as that of the sentence(s) given.

1. The twins showed their love for their mother. They baked her a birthday cake.  
The twins showed \_\_\_\_\_
2. Jack's father will allow him to play soccer. He must come home on time for dinner.  
As long as \_\_\_\_\_
3. The boy's dog was killed in an accident. The boy was heart-broken.  
The boy \_\_\_\_\_
4. He has failed many times. He still hopes to succeed.  
In spite of \_\_\_\_\_
5. Maria has not seen Peter for some time. She wonders how he is keeping.  
Not having \_\_\_\_\_
6. They spoke quietly. They did not want to wake the children up.  
\_\_\_\_\_ so as \_\_\_\_\_
7. The dismissal bell rang. We went home immediately.  
As soon as \_\_\_\_\_
8. Jenny refused to follow Mr Ali's instructions. Mr Ali was frustrated.  
Jenny's \_\_\_\_\_

90

Synthesis/Transformation 8

Rewrite the sentence(s) given, using the word(s) provided. Your answer must be in one sentence. The meaning of your sentence must be the same as that of the sentence(s) given.

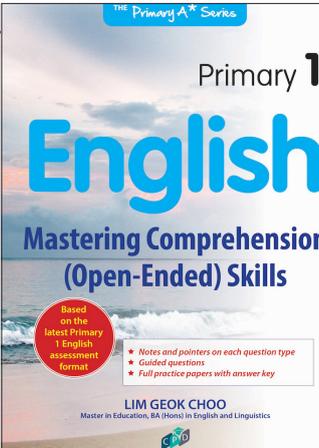
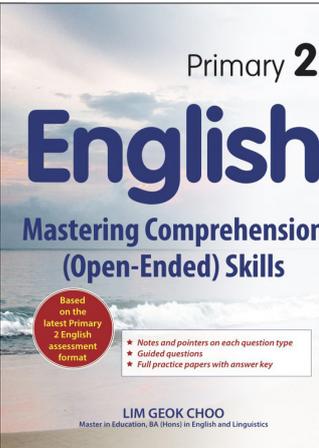
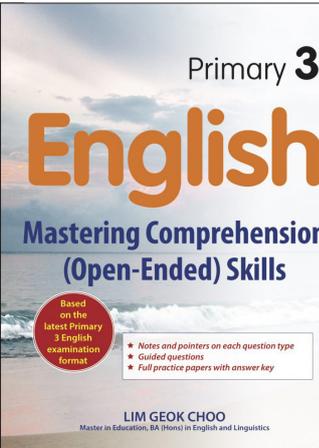
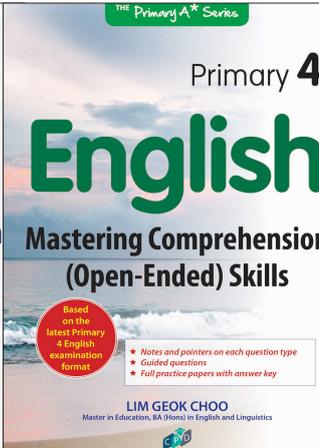
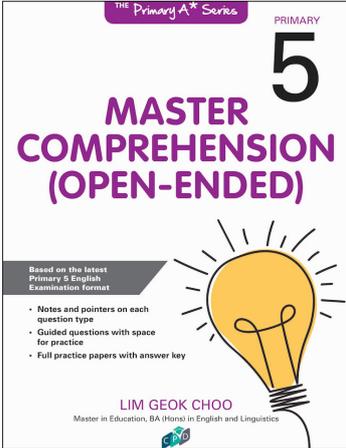
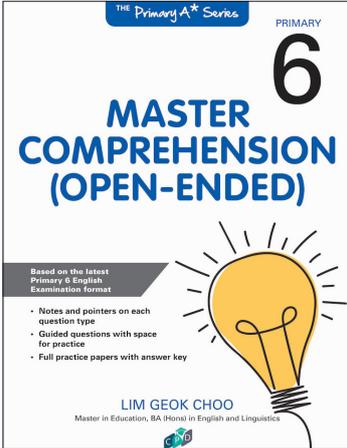
1. Neither Adam nor Joy is convinced that they made a mistake.  
Both \_\_\_\_\_
2. Mr Lee's children show no interest in horror movies.  
Neither of \_\_\_\_\_
3. We will not give you the goodies bag if you do not request for it politely.  
Unless \_\_\_\_\_
4. The lady lost her handbag. She broke into tears.  
\_\_\_\_\_ whose \_\_\_\_\_
5. My teachers were patient. I passed my examination.  
Because of \_\_\_\_\_
6. Pat is captivated by the flowers. They are beautiful and fragrant.  
Pat is captivated \_\_\_\_\_
7. "Ahmad, I'm sorry. I was rude to you at the meeting," Alice said.  
Alice apologised to \_\_\_\_\_
8. Mrs Lim reminded her pupils not to forget to bring their report books the following week.  
\_\_\_\_\_ Mrs Lim reminded her pupils.

91

## Mastering Comprehension (Open-Ended)

This series is written for students to use in the classroom with teacher supervision and/or at home for independent learning.

With the teaching notes, short practice exercises, tips on common mistakes to avoid and full practice papers, students will be more confident and better prepared to handle the demands of this new format of open-ended comprehension in the English Language examination.

 <p>ISBN: 9789810990114</p>	 <p>ISBN: 9789810990121</p>	 <p>ISBN: 9789810990138</p>	 <p>ISBN: 9789810971823</p>
 <p>ISBN: 9789811138034</p>	 <p>ISBN: 9789811138041</p>		

## Teaching and Explanation Notes

Notes and examples are given to explain the demands and expectations of open-ended comprehension.

Primary 1 English – Mastering Comprehension (Open-Ended) Skills

### Quoting the Text

**Steps to use**  
 In each step, there is a guiding question to help you.  
 Step 1 What is required? (A word? A phrase? A sentence?)  
 Step 2 What is the given meaning?  
 Step 3 Which word, phrase or sentence in the passage has this meaning?

**Example**  
 Mani and Lukman were good friends. They were travelling through a forest together. Suddenly a bear appeared. Mani did not know what to do. Lukman sprinted off, leaving his friend behind.  
 Mani tried to run but he fell instead. The bear came over and sniffed Mani, who had passed out. As Mani seemed lifeless, the bear walked away. It continued in search of Lukman.

Quote the 2-word phrase in the passage that means 'fainted':

Step 1 What is required?  
 A 2-word phrase

Step 2 What is the given meaning?  
 'Fainted' means 'blacked out or became unconscious'.

Step 3 Which phrase in the passage has this meaning?  
 'Passed out' has the meaning 'fainted'.

**Answer**

36

Primary 2 English – Mastering Comprehension (Open-Ended) Skills

**Example**

On his way home, Bei saw many dragonflies. They came flying in circles around his head. Irritated by the buzzing, he caught one and the rest flew away.  
 Then he met a woman and her son. The little boy exclaimed, "Mummy, dragonfly!"  
 Bei gave the dragonfly to the little boy. He received three oranges from the grateful woman.

Who gave Bei some food?

Step 1 The question word is 'who'.  
 Step 2 I must identify the person who gave Bei some food. In the story, Bei met a woman and her son. Bei gave a dragonfly to the little boy. Bei received three oranges from a woman.  
 Step 3 The person was the boy's mother.

**Answer** The boy's mother gave Bei some food.

Primary 1 English – Mastering Comprehension (Open-Ended) Skills

### Contention Errors to Avoid

**Be Careful!**  
 Do not read only parts of the story to decide if a sentence is true or false. Read everything.

**Example**  
 Some women looked at the apples. They were going to buy them if the price was right.  
 Put a tick (✓) in the box if it is true and a cross (X) if it is false.  
 The women bought the apples.

**Read the whole story** to get the full picture. Then decide if the sentence is true or false.

Some women looked at the apples. They were going to buy them if the price was not high.  
 The stall-holder said the apples cost one dollar each. The women shook their heads.

In this example, the women were going to buy the apples if they were not expensive. At one dollar each, the apples were expensive. The women shook their heads because they did not want to buy the apples.  
 The truth is they **did not buy** any apples because the price was high.

18

## Common Errors

Pointers are provided to warn students about common pitfalls when they answer questions.

## Guided Exercises

Guided exercises are included to provide students with immediate practice and guidance.

## Full Practice Papers

Full practice papers are provided for students to test their ability to apply what they have learnt. To benefit from this book, students should complete the teaching section first. Then they can proceed to the full practice papers with greater confidence.

Full Practice Paper 8

Dear Diary,  
 Today our teacher told us about the reading competition. There was a buzz in the room after that. My classmates and I hoped our class could win.  
 "Joyce, you are the class leader. Any ideas?" Mrs Lim asked. Before I could reply, my best friend suggested that we could go to the library during recess. I was surprised. All my classmates agreed. I thought everyone wanted to play during recess.  
 "We can eat quickly. That way, we can still borrow books from the library," Jenny said.  
 Today, our class loaned a total of forty books. We plan to read them by tonight, so tomorrow we can get more books. I am confident that our class stands a good chance. We will be reading more books than other classes. Jenny's idea was a clever one.

Answer all the questions.

1. What did the pupils hope they could win? [1m]  
 They hoped they could win.

2. Why did Mrs Lim ask the writer for ideas? [1m]  
 Mrs Lim asked her for ideas because \_\_\_\_\_.

3. Who was the writer's best friend? [1m]  
 The writer's best friend was \_\_\_\_\_.

95

Primary 1 English – Mastering Comprehension (Open-Ended) Skills

### Full Practice Paper 9

King John loved his son very much. There was nothing he would not do to see him smile.  
 One day, the little prince fell ill. He would not eat his favourite food, fried rice. He would not take his medicine. He did not want to play with his favourite ball.  
 "What shall we do?" King John asked his queen.  
 "A pet!" said the advisor. "A cute little pet will cheer the prince up!" he added.  
 King John chose a puppy. The queen chose a kitten. When the prince saw the animals, he smiled. He cuddled and stroked them. He took his medicine and got well, thanks to the new pets!

Answer all the questions.

Put a tick (✓) in the correct box.

1. King John wanted \_\_\_\_\_ to be happy. [1m]  
 the prince  the puppy  the queen

2. The advisor told the king to give his son \_\_\_\_\_. [1m]  
 a kitten  a puppy  a pet

Put (✓) in the box if it is true and (X) if it is false. [4m]

3. The prince was not well.

74

## Answer Key

An answer key is provided for students' use when assessing their own answers so that they can learn from their mistakes. Practice makes perfect.

Master Comprehension (Open-Ended) – Primary 2

**Exercise 6D**  
 (a) connected  
 (b) smothering  
 (c) conspicuous

**Exercise 6E**  
 (a) waddles  
 (b) disappreciated  
 (c) warring

**Exercise 6F**  
 It tells us that the players performed badly during the games and always lost to their opponents.

**Unit 7**

**Exercise 7A**  
 1. The names of the characters properly fill out their character after Neo had fallen to his knees and led him to the chair.  
 2. They made sure that Neo was always ahead of them by not overtaking him.

**Exercise 7B**  
 Step 1 The question word is 'why'.  
 Step 2 When his father found a large gold coin in the cake, he did not keep it for himself. Zui's father told Zui to return it to Ahmad.  
 Step 3 Zui should be thankful to his father for being honest and not taking home a job. Ahmad chose a worker for his factory to bring him a job to do for him inside the cake.

**Exercise 7C**  
 Step 1 The question word is 'how'.  
 Step 2 Ahmad gave a feast to some children. He put a gold coin in each piece of cake of the person eating it.  
 Step 3 When the person returned the coin, Ahmad would know that he was honest. If the person did not return the coin, Ahmad would not offer him a job.  
 Answer Ahmad chose a worker for his factory to bring him a job to do for him inside the cake. Zui should be thankful to Ahmad for giving him a job to do for him inside the cake.

**Exercise 7D**  
 Step 1 The question words are 'what' and 'why'.  
 Step 2 His father cut the cake and found a large gold coin in it. He was honest and he told his father. Ahmad told Zui to return it to his factory the next morning so that Zui should be thankful to his father for being honest and telling him to return the gold coin inside the cake. Zui should be thankful to Ahmad for giving him a job to do for him inside the cake.  
 Answer  
 1. Zui should be thankful to his honest father for telling him to return the gold coin.  
 2. He should also be thankful to Ahmad for giving him a job in his factory.

114

Master Comprehension (Open-Ended) – Primary 3

**Practice Paper 10**

1. Ahmad.  
 2. Spending a long day shopping with friends for presents made him drowsy.  
 3. It was a short cut and he was impatient to reach home.  
 4. They were the crushing of sand and gravel under his boots and light footings behind him.  
 5. He was not alone in the park. There was someone else in the park besides him.

True/False	Reason
True	People walked those around them would watch.
False	They wanted a side for them to hide in.
True	The writer walked fast.
False	He confronted the author directly.
True	so that he could shake off or frighten the robber.

7. 

True/False	Reason
True	The writer recalled something that happened 8 months ago.
True	The stranger was not an old man out to harm the writer.
False	The writer spoke politely to the stranger.
False	The writer shouted at the stranger.
False	It was night. There was moonlight.

8. 2, 1, 3  
 9. yes  
 10. I would feel embarrassed because my trousers were torn and I had scolded someone who was trying to help me.  
 OR I would feel thankful because the kind and elderly man prevented other people from seeing my torn trousers.  
 OR Any other reasonable response

124

# Mastering Comprehension Visual Text & Cloze

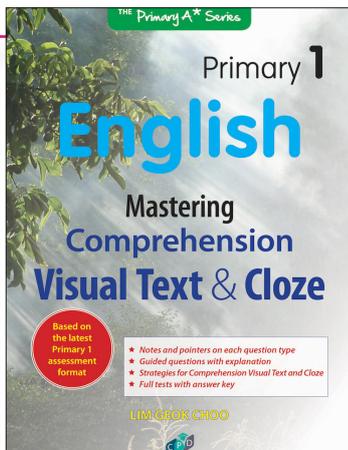
There are 2 main sections in each book:

## Section 1: Visual Text Comprehension

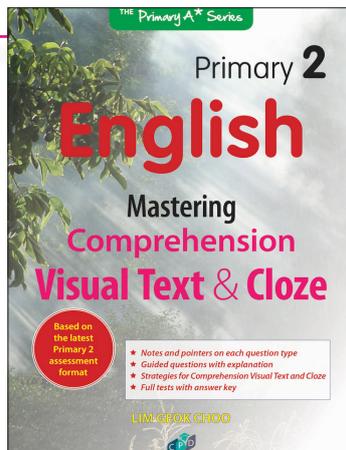
Visual text comprehension is different from open-ended comprehension. A visual text has images and words to convey meaning. These help to make the meaning of the information clearer for readers. Examples of visual texts are: web pages, flyers, posters, advertisements, brochures and newsletters. The following common types of questions in visual text comprehension are explained in this section: (a) True statement, (b) Vocabulary in context, (c) Important details, (d) Reasons, (e) Evidence, (f) Facts vs. non-facts, (g) Main aim and (h) Punctuation. 10 tests in visual text comprehension are included in this section.

## Section 2: Comprehension Cloze

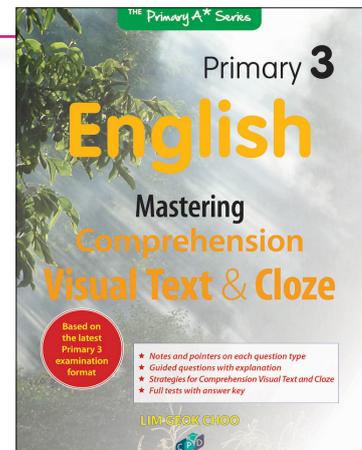
Comprehension cloze is a test of students' ability to comprehend a text. There are 15 deletions in each text from different word classes. The following are some useful strategies on comprehension cloze covered in this book: (a) Collocations, (b) Contextual clues, (c) Connectors, (d) Synonyms/Antonyms, (e) Summary, (f) Grouping, (g) Referring back and forward, (h) Cumulative and global comprehension. 10 tests in comprehension cloze are included in this section.



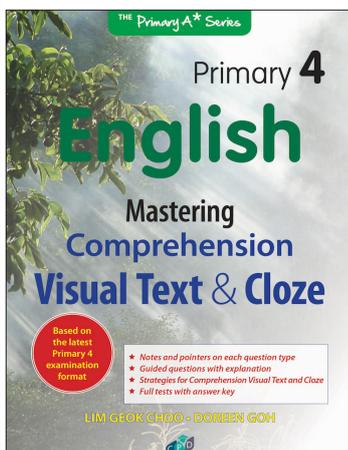
ISBN: 9789811111723



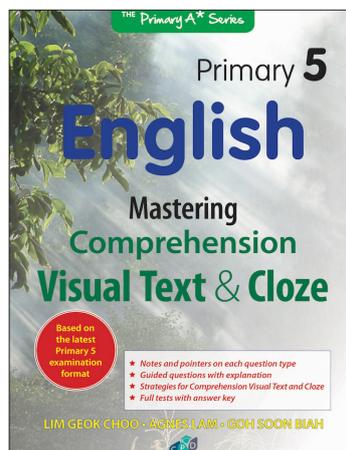
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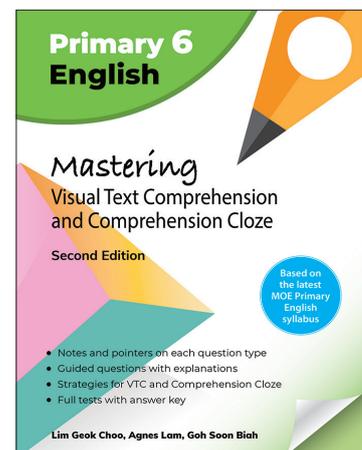
ISBN: 9789811111709



ISBN: 9789811111693



ISBN: 9789811111686



ISBN: 9789811499203

**Unit 12**  
**Synonyms / Antonyms**

Writers use synonyms (words with similar meanings) so that they do not have to use the same words in a paragraph. At times, they also use antonyms (words of opposite meanings) to express their ideas to avoid repetition.

Hence, an important strategy to remember when you need to find the correct word to fill in a blank is to think of a possible synonym or antonym that can fit into it.

**Steps to use**

1. Read words before and after the blank.
2. Study the clues to find out if the writer is using a synonym or an antonym.
3. Use a suitable synonym or antonym for the blank.

**Example 12**  
Jack feels unhappy when he sees his best friend \_\_\_\_\_ about her lost pet.

**Steps to use**

Step 1 Read the words before and after the blank.  
The words before the blank state that something is making Jack unhappy. The words after the blank tell me that Jack's unhappiness has to do with how his best friend is feeling when she loses her pet.

Step 2 Study the clues to find out if the writer is using a synonym or an antonym.  
The clues tell us that the writer is stating that Jack's feeling of unhappiness is linked directly to how his best friend is feeling over the loss of her pet. So both their feelings have to do with the loss of the pet, the writer is using a synonym for the word 'unhappy'.

Step 3 Use a suitable synonym or antonym for the blank.  
The word for the blank must be able to replace the word 'unhappy'. Therefore, the answer is 'upset'.

**Answer:** Jack feels unhappy when he sees his best friend upset about her lost pet.

109

Primary 6 English Reading/Short Text Comprehension and Language Use

**Practice 16**

"I'm having a headache again," said Joe. "This story-writing competition is giving me endless trouble," he thought to himself.

That afternoon, Joe went to the library in search of inspiration. He took some books down from the shelves and started reading some stories. Suddenly, he had an idea. He could just use one of them as his entry for the competition! He quickly set to work.

The next day, Miss Tan came to class early and read a story to the pupils. It was the prize-winning story last year. It was the story that Joe had copied and submitted as his entry.

For the next few days, Joe could not sleep or eat well. He was afraid he would be found out. Joe \_\_\_\_\_ stealing someone's work. He wished he had not done what he did. If only he could get his entry back. He decided by his heart to write an original story even if it was going to give him a headache again.

**Steps to use**

Step 1 Read each paragraph to get its main idea.

Paragraph 1 Joe was having problems trying to \_\_\_\_\_

Paragraph 2 Joe copied \_\_\_\_\_

Paragraph 3 Miss Tan read \_\_\_\_\_

Paragraph 4 Joe could not sleep or eat well for fear that \_\_\_\_\_

Step 2 Connect the main ideas of the individual paragraphs.  
Joe was desperate for story so he \_\_\_\_\_ as his entry for \_\_\_\_\_

118

## Steps to Use

Each unit contains a 'Steps to Use' section which provides students with a step-by-step guide on how to tackle different questions.



## Common Mistakes

Showcases common mistakes made during comprehension so that students can avoid the same pitfalls.

Unit 7 Vocabulary in Context

**Option (4): preserve**

Step 1 Read each option to understand its meaning.  
Option (4) means keep in its original state.

Step 2 Find the relevant part of the visual text to decide if the option is correct.

The natural resources on our planet earth are limited so we must make the most to conserve, recycle and reuse whenever possible.

This tells me that the resources must be kept in their original state.

The information helps me decide that Option (4) is not correct.

**Answer: Option (1)**

**Common Mistakes to Avoid**

Some options may be quite plausible and close to the correct answer. Do not be misled by such options but consider the context more closely. Be aware that some options offer only dictionary meanings and may not be suitable in the given context.

**Practice 2**

**Joyce Lim – a student**

I enjoyed myself very much. Besides some shrubs, we also planted nine Tembusu trees around the neighbourhood. I learnt that there is a tree of this type right in the heart of the Botanic Gardens. It has a unique low-hanging branch and is an icon of the Gardens. It is over 150 years old. The wood from the Tembusu is very hard, and resistant to termites and weevils, which makes it popular for building. It only flowers twice a year, with an unmistakable fragrance.



11

Primary 3 English Reading/Comprehension/Short Text & Use

**Visual Text Test 9**

Look at the poster. Answer Questions 1 to 4.

**Sweet Smile Dental Clinic**

38 Orchard Road, #08-11  
Flax Building  
Singapore 27883311

**A clinic specially for children**

Our dentists are trained to help children overcome their fear of getting dental treatment.

Come and have a pleasant experience at our clinic when you need dental treatment. Read, rest or do some art activities while you wait for your dentist.

**Context 2**

Helping words  
librarian pupils sign shelf counter  
books carpet chair

This is a 1. \_\_\_\_\_

2. \_\_\_\_\_ 3. \_\_\_\_\_ 4. \_\_\_\_\_

5. \_\_\_\_\_ 6. \_\_\_\_\_

7. \_\_\_\_\_ 8. \_\_\_\_\_ 9. \_\_\_\_\_ 10. \_\_\_\_\_

42

Primary 6 English Reading/Short Text Comprehension and Language Use

**Exercise 11**

Fill in each blank with a suitable word.

1. We went to a fast-food restaurant \_\_\_\_\_ we did not have a lot of money with us.
2. \_\_\_\_\_ soft drinks are tasty, water is healthier for you.
3. We had not eaten since we went on the hike. \_\_\_\_\_ we felt very hungry and could not walk very fast.
4. I hope they will come to my house \_\_\_\_\_ I want to learn more about their overseas trip.
5. It started to rain heavily. \_\_\_\_\_ we could not leave the house.
6. \_\_\_\_\_ to the drought, the government is going to start water rationing.
7. It is important to exercise regularly. You must also have a balanced diet. Most \_\_\_\_\_ you must have enough sleep.
8. He did not win a prize. \_\_\_\_\_ the judge praised him for his commendable efforts.
9. People used bricks \_\_\_\_\_ were sturdier than other building materials to build their houses.
10. They cite examples of sailors. \_\_\_\_\_ in the past, had to sail on the oceans for months without proper nutrition.
11. We should feel satisfied \_\_\_\_\_ not stuffed at the end of each meal.
12. They cannot sleep. \_\_\_\_\_ they hug their favourite teddy bears.
13. Kite flying was introduced to India by travellers. \_\_\_\_\_ then, different types of kites have been flown by Indians.
14. You did not tell us you wanted to come \_\_\_\_\_ our group outing.
15. I think it is a good idea to buy your most \_\_\_\_\_ you should buy her to \_\_\_\_\_

14

Unit 4 True Statement

**Step 1** Read each statement to understand its meaning.

**Option (1): You can have noodles with ice cream.**  
Option (1) means that when you order noodles, you also get ice cream.  
It is not correct because the order is noodles and orange juice together.

**Option (2): You can have burgers with ice cream.**  
Option (2) means that when you order burgers, you also get ice cream.  
It is not correct because the order is burgers, fries and orange juice together.

**Option (3): You can have pizza with ice cream.**  
Option (3) means that when you order pizza, you also get ice cream.  
It is correct because the order is pizza and ice cream together.

**Step 2** Find the correct part of the visual text to decide which statement is true.



The text states that there is an order for pizza and ice cream together.

**Answer: Option (3)**

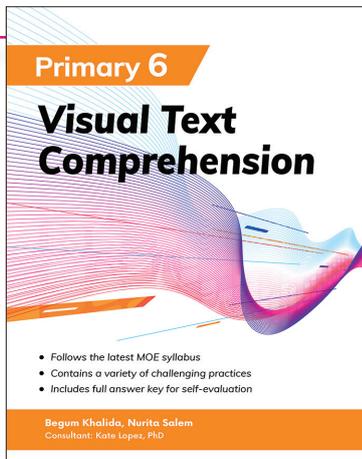
35

## Practices with Answers

Students can test skills and concepts learnt, after which they can easily do self-evaluation with the help of the provided answers.



## P6 Visual Text Comprehension



ISBN: 9789811494345

The objective of this Primary 6 Visual Text Comprehension is to equip Primary 6 students with the vital skills to face visual text comprehension questions in preparation for PSLE. The challenging visuals are presented in a myriad of ways to expose students to the varieties of visual texts that they could encounter in their examinations.

This book will strengthen the students' comprehension skills through the use of stimulating visuals that encourage sustained and mindful interaction between the reader and the visual texts.

### Contents

Visual Text 1	1	Visual Text 27	85
Visual Text 2	4	Visual Text 28	88
Visual Text 3	7	Visual Text 29	91
Visual Text 4	10	Visual Text 30	94
Visual Text 5	13	Visual Text 31	98
Visual Text 6	16	Visual Text 32	102
Visual Text 7	19	Visual Text 33	105
Visual Text 8	22	Visual Text 34	109
Visual Text 9	25	Visual Text 35	112
Visual Text 10	28	Visual Text 36	115
Visual Text 11	31	Visual Text 37	119
Visual Text 12	34	Visual Text 38	122
Visual Text 13	37	Visual Text 39	126
Visual Text 14	40	Visual Text 40	130
Visual Text 15	43	Visual Text 41	134
Visual Text 16	46	Visual Text 42	138
Visual Text 17	49	Visual Text 43	142
Visual Text 18	53	Visual Text 44	145
Visual Text 19	56	Visual Text 45	148
Visual Text 20	59	Visual Text 46	151
Visual Text 21	62	Visual Text 47	154
Visual Text 22	66	Visual Text 48	157
Visual Text 23	70	Visual Text 49	161
Visual Text 24	74	Visual Text 50	164
Visual Text 25	78	Answer Key	168
Visual Text 26	81		

### Extensive Practices

The book contains 50 visual texts for comprehensive practice.

### Challenging Visuals

A variety of visual texts with questions following the latest MOE syllabus.

**Primary 6 Visual Text Comprehension**

**VISUAL TEXT 1**

Study the following bulletin and answer questions 1 to 6.

Organised by Birchwood Primary School

**SCIENCE AND BEYOND**

Calling our P5 & P6 students to join Birchwood's annual science fair!

3<sup>rd</sup> May & 4<sup>th</sup> May 2019

10 a.m. to 5 p.m.

Present this coupon to get 10% discount at the science fair food stalls.

Registration forms for participants are available at the general office. Alternatively, you can register online at [www.birchwoods.com](http://www.birchwoods.com)

Spectators are welcome to come down for a great day of fun and learning at our school's science fair! There will be 50 science booths to look out for! Food stalls set up by students will also be available.

Grand prize: 2-year subscription to Science magazine (value \$100)

Judging begins at 3 p.m. each day. Winners will be announced on the second day of the fair at 4:30 p.m.

2. Where can the registration form for the science fair be obtained?  
 (A) From the science teachers.  
 (B) From [www.birchwoods.com](http://www.birchwoods.com).  
 (C) From the science fair judges.  
 (D) From the general office.

3. Why is the date "25<sup>th</sup> April" written in bold?  
 (A) To make the date look pretty.  
 (B) To draw people's attention to the audition process.  
 (C) To make the date stand out.  
 (D) To highlight when the selected participants will be announced.

4. Who is the organiser of "Science and Beyond"?  
 (A) Birchwood Primary School  
 (B) Science and Beyond Magazine company  
 (C) Birchwood Secondary School  
 (D) Birchwood Science Club

5. The 10% coupon is to be presented at the \_\_\_\_\_.  
 (A) general office  
 (B) science fair food stalls  
 (C) audition for the judges  
 (D) science fair booths

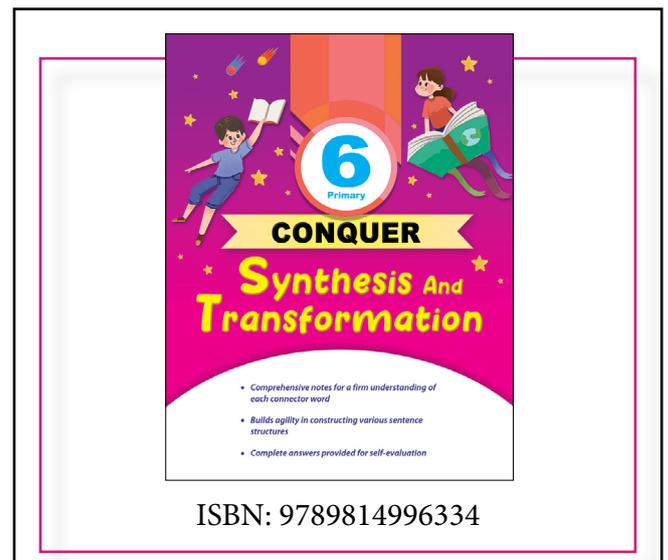
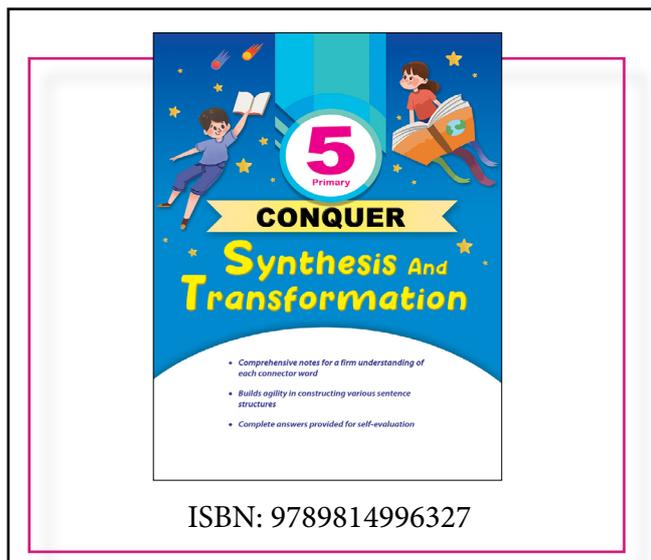
6. Gerald is interested in participating in the fair. What does he need to prepare for the audition?  
 (A) Project summary PowerPoint slides  
 (B) Speech for the science fair  
 (C) Project display  
 (D) Project summary in a file

# Conquer Synthesis and Transformation

Both the Primary 5 and Primary 6 Conquer Synthesis and Transformation books provide practice in constructing meaningful sentences, with the added aim of helping students learn to show how their ideas connect and emphasise the important ideas in their sentences. Students will develop a firm foundation in understanding the structure of English sentences as well as the confidence to use the acquired skills in their compositions.

The sentences in the practice exercises follow the sentence structures students should master at the end of Primary 6, as spelt out in the latest Ministry of Education syllabus for primary schools. Between the two books, the various strategies are comprehensively covered.

These books will help teachers, parents and pupils to identify and correct language errors. The highlighted skills are organised following a systematic approach. Following such an approach also means that pupils are exposed to a variety of ways in which each skill can be explored, building agility in writing and thinking.



**Using conjunctions to join two or more words or statements**

**and**      **both ... and ... as well as**      **not only ... but also**

These conjunctions allow us to express two ideas which move along the same line of thought.

**Eg:** Wee Nam was late. Raju was late too.

It is possible to combine the two sentences in the following manner.

A1 **Both** Wee Nam **and** Raju were late.

Note the verb change in A1 from 'was' to 'were' because **both** is used.

**Eg:** The boys were quite tired. They were also quite hungry.

A2 **The boys were both quite tired and quite hungry.**

A3 **The boys were not only quite tired but also quite hungry.**

(a) Since **not only ... but also** and **both ... and** are correlative conjunctions, the pair should be followed immediately by the same grammatical words, two similar phrases, or two similar clauses.

**Wrong:** The boys not only were quite tired but also quite hungry.

**Exercise 1**

For each of the items, rewrite the given sentence(s) using the words in bold in one sentence. The meaning of your sentence must be the same as the original.

- My brother is furious with me. My sister is furious with me too.  
Both \_\_\_\_\_
- Karen spent her childhood in India. She spent it in China too.  
Karen \_\_\_\_\_ not only \_\_\_\_\_ but \_\_\_\_\_

**Answers**

**Exercise 1**

- My brother and my sister are furious with me.
- Karen spent her childhood not only in India but also in China.
- Jacky smelt and enjoyed the food.
- Not only does Jacky like to watch movies but he also likes to watch plays.
- Shakespeare was both an actor and a playwright.
- Both the front and the back of the building need painting.
- Mr Goh was pleased and impressed with John's work.
- Gerie not only drilled the pre-ropes but she had the second safest.
- Wee Nam has a great sense of humour and likes to play jokes on his friends.
- Neither did he only painted the mural in the foyer but also hand-carved the wooden statue.

**Exercise 2**

- Although the theatre was freezing cold, Polly did not put on a coat.
- She tried solving the mathematical problem but gave up after two hours.
- I enjoy watching soccer whereas my father prefers watching basketball.
- Although I had planned my journey carefully, the closure of the mountain pass upset it.
- We had trained hard but lost the match.
- When Mr Lim wanted to visit the Am Museum, Mrs Lim wanted to shop.
- I did not get an interview although I had all the necessary qualifications.
- Neither had he to the rock but he went to the beach.
- Lila loves to eat whereas Mia Mei finds it a chore.
- Neither he got his job although I advised him not to do so.

**Exercise 3**

- Helen refused to take out the trash on the empty bottles.
- You can choose either a sweater or a hat and shoes.
- Sally has not visited her aunt or uncle in two years.
- Either he will be an actor or a singer.
- When you get there, ask for either Alan or Anishah.
- I have never neither the forest nor the house.
- Tell me the truth, Lila, or I will not trust you again.
- You can either walk along the Singapore River or enjoy the city view from Mt Faber.
- Neither Patrick nor his hand wants to eat the food.
- Either he is Korean or he is Japanese.

**Exercise 4**

- Her classmates like her because she is kind and cheerful.
- As tomorrow is Chinese New Year, every shop will be closed.
- As we have not seen each other for a long time, they have been busy.
- The bus is not late now, for the policeman has been here.
- The student often has to study hard.
- Mr Tan made great progress in her work for she worked hard.
- We were charged with the responsibility of the evidence passed to him.
- As James was nervous, he decorated his stall.
- Sally had a good day because she got an A in her performance in singing.
- Lily Li brought a dress along, for she knew the theatre was freezing cold.

## Coverage in Each Unit

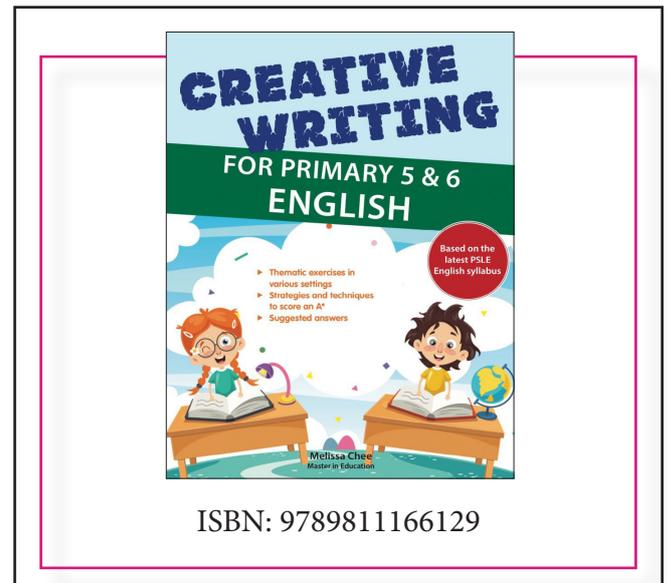
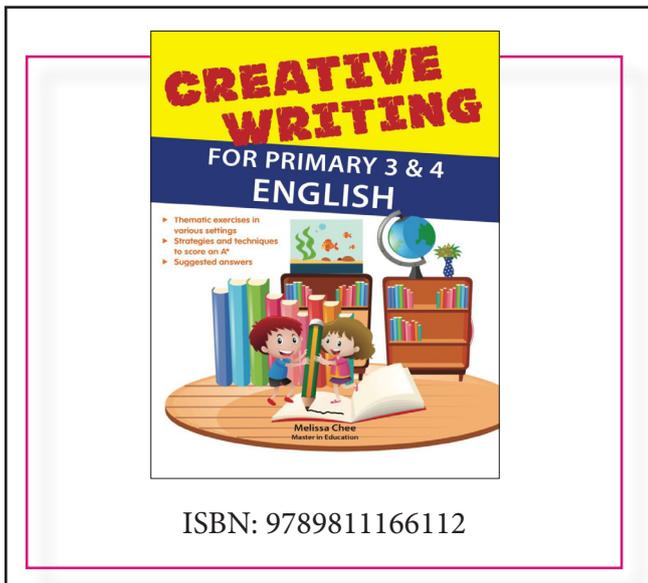
A box at the beginning of most units highlights the different words to be covered for that particular strategy. Those in bold are discussed in the book, while those which are not are introduced in the other.

## Enhanced Learning

Since learning is enhanced through insight, explanatory notes and answers to the exercises accompany each unit.

## Creative Writing

Writing a good essay requires a good command of the English language and clarity in expression. This series contains thematic exercises in various settings found in examinations. With many examples of good descriptive phrases from different themes, you will definitely improve your writing and build up your word bank. Suggested answers to practice questions are provided to facilitate learning and for students to eventually make use of the techniques in the answers to score an A\* in Paper 1.



**Unit 1 Introduction**

**Devices that you can use to enhance your writing**

There are various devices that you can use in your essays to make them better. Some of these devices are given below.

**Metaphor** A figure of speech where a word or a phrase is regarded as symbolical of an object or an action.  
**Example** Pauline is feeling blue.  
*The statement is not literally stating that Pauline is feeling like the colour blue, but that she is feeling sad as the colour blue is often symbolical of sadness.*

**Simile** A figure of speech used to compare two different things to emphasize on the description. Similes usually come in the form of: "as \_\_\_\_\_ as \_\_\_\_\_", "like \_\_\_\_\_".  
**Example** The winner of the 100m race paraded around the track like a peacock.  
*A peacock is usually representative of pride and hence, stating that the winner of the race paraded around like a peacock, just means that he was proud.*

**Idiom** A figurative phrase that should not be taken literally as idioms often have meaning that cannot be derived from the words in the phrase itself.  
**Example** Once in a blue moon  
*If someone says that something occurs once in a blue moon, it means that it happens rarely.*

**Unit 1 Introduction**

**Devices that you can use to enhance your writing**

There are various devices that you can use in your essays to make them better. Below are some which you can consider:

**Personification** The ascribing of human qualities and characteristics to something non-human, such as the weather.  
**Example** The stars danced in the night sky.  
*Dancing is a human action and the stars did not literally dance in the night sky. It is used in this sentence metaphorically to mean that the night sky is filled with twinkling stars.*

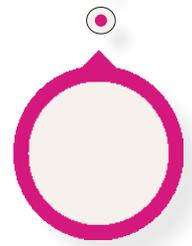
**Onomatopoeia** The formation of a word from a sound.  
**Example** The rain pitter-pattered on the window pane.  
*Pitter-patter is the sound made by the rain when it falls on a surface. It can be used to further illustrate and describe the scene of the rain falling.*

**Oxymoron** A contradiction of terms – often to add dramatic effect or meaning to a certain context.  
**Example** The silence in the room was deafening.  
*'Silence' and 'deafening' are contradictory words. Deafening is usually associated with loud noises. In this case, 'deafening' emphasises on how extreme the silence was.*

**Foreshadowing** A slight hint at what is coming, usually used to build up tension.  
**Example** John beamed in pride. Little did he know that his joy would be short-lived.  
*Little did he know hints at the tragic events that could follow after, creating an atmosphere of suspense.*

### Progressive Difficulty

Creative Writing for Primary 3 & 4 helps students build a foundation in creative writing. Creative Writing for Primary 5 & 6 builds competence in students to write confidently.



### Practices with Examples

Reinforces learning through using different expressions that can be used in essays. Students will have a better understanding of phrases though exposure to their usage in different contexts based on themes. It provides a structured way to improve creative writing.

**CREATIVE WRITING FOR LOWER PRIMARY ENGLISH**

**Unit 4 Scenery**

**Good weather**

**Examples**

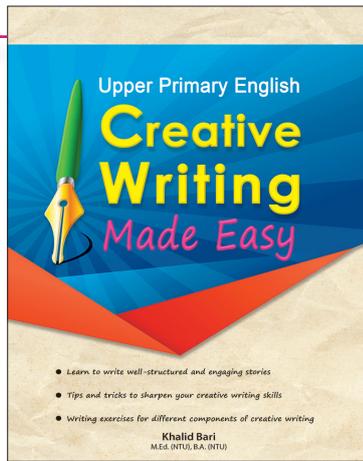
- The flowers blooming in the field...
- The sturdy trees bowed their heads...
- From pastel flowers to tropical cacti housing some of nature's finest creatures...
- I was mesmerized by the flowers in front of me and a sweet aroma wafted before me and a sweet aroma wafted before me...
- A butterfly flitted through the breeze collecting sweet nectar.
- The snow-capped mountains stood soft sunlight.
- The rainbow shimmered beautifully causing pedestrians to stop and gaze.

**Practice 10**

- The air \_\_\_\_\_ as thunder and lightning waged war in the sky, producing low rumbling sounds that crescendoed into a cymbal crash.
- \_\_\_\_\_ of incessant rain pummelled down on the roof of our car.
- The air turned \_\_\_\_\_ and \_\_\_\_\_, heavy with the \_\_\_\_\_ of rain. Sprinkles of water fell from the sky, and soon enough, a wall of rain was drumming on our window.
- A streak of lightning \_\_\_\_\_ through the chilly night, briefly illuminating the sky.
- By the time I got home, my white shoes were caked with \_\_\_\_\_ and \_\_\_\_\_.



# Creative Writing Made Easy



ISBN: 9789811490118

Some might think that a good composition is one that has flawless grammar, punctuation and spelling. However, correct writing is not the same as good writing. Those are only the basic expectations an English teacher has of any student's composition. Creative Writing Made Easy helps students share their imagination and present their stories creatively, the hallmarks of good writing.

Chapter 2  
**What Makes a Story Great?**

A good story boils down to two main features: an interesting character and an interesting storyline.

**Good Story Feature: Interesting Character**  
When we are creating a character, that character must be reliable to our readers and more importantly to ourselves, the writer.

For instance, imagine that you are a Primary 5 student writing a composition for your English language teacher. Your main character in your story should be of someone who can be a student like yourself whose situation is similar to yours (for instance, having an argument with a friend, passing a difficult test, visiting a foreign country for the first time).

**Creative Writing Tip**  
Create a main character whom you and your reader could relate to.

While you can create an interesting character who shares no similarity with you (like a 30-year-old woman who was recently re-rentended or an ex-offender who was just released from prison), you might not be able to convey the character effectively because you are unable to relate to the character's experiences.

The easiest way to create the main character in your story is with someone whom you know. It could be a friend you know, a relative you have or a neighbour whom you know very well. Better yet, you can create a character based on yourself.

**Creative Writing Tip**  
Try to introduce your character's personality at the start of the story.

## Exercises

Writing exercises for different components of creative writing.



## Creative Writing Tips

Help sharpen students' writing skills.



Upper Primary English Creative Writing Made Easy

**EXERCISE**  
Create three characters that have both good and bad qualities.

Character	What does he/she do?	What is his/her positive quality?	What is his/her negative quality?
Example: Mr Lim	An old man who lives alone.	He takes care of stray cats.	He is a grumpy old man who dislikes children.

As you are writing and presenting your characters in your story, you must give them a **personality**. Each character must have a distinct personality to separate the characters apart.

**Creative Writing Tip**  
Limit your number of characters in your story. If there are too many characters, the reader might be confused.

## Build Better Vocabulary

Multiple sample phrases to describe scenarios are provided.



Chapter 9 - Building Better Vocabulary

**Phrases to describe evening or night**

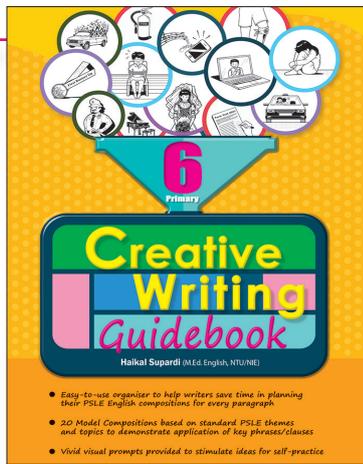
- The evening sun beckoned me home after a brain-storming session in school.
- The splendid sunset had us spellbound as we watched the sinking of the huge ball of fire amidst the splashes of warm hues of red, orange and yellow. Such was the splendour and grandeur of the sunset.
- The moon was high in the sky, shrouded by misty grey.
- Beneath the silvery moon, the distant owl hoisted had silhouettes of the branches resembled ghostly limbs.
- The ominous moon seemed to be in cahoots with the
- The moon lost its place in the night sky as the blanket descended on the quiet neighbourhood.

Upper Primary English Creative Writing Made Easy

**Phrases to describe a person's voice**

- A screeching voice
- A tremulous voice
- A voice so cruel, cold and ugly
- A voice that brought my heart to my mouth
- A cry that penetrated the silence of the night
- A cry that rang through the night
- Blatting out
- Cried out in a trembling voice
- Deep authoritative voice
- Dry and caustic
- Deafening roar
- High-pitched voice
- His or her voice faltered
- High-pitched laugh
- Hysterical and shrill laughter
- Grunted breathlessly
- Long hyena-like laugh
- Loud and dictatorial voice
- Momentary silence
- Muffled laughter
- Picked up the ears
- Quivering voice
- Raising his or her voice in an odd sing-song manner
- Sounded calm and composed
- Silence tinged in the air
- Snapped scornfully
- Soothing voice

# P6 Creative Writing Guidebook



ISBN: 9789811803673

This book serves to guide students in planning and writing creative compositions for the Continuous Writing component of the PSLE English Language Paper 1. Each chapter has been produced in consideration of previous PSLE questions over the years.

Each Writing Task in this book demonstrates a guided planning structure for every section of the composition known as F.A.S.T. (Feelings, Actions, Speech, Thoughts).

In this guidebook, students will have the opportunity to generate ideas for commonly tested topics such as crime, unfortunate events, school issues and values in action. Students may refer to the model compositions and identify phrases (written in bold) that can be applied in the 'Self- Practice' sections.

**Planning: Character & Story Development (F.A.S.T) - Sample**

	Feelings	Actions	Speech	Thoughts
<b>Intro / Conflict</b>	- Anxious - Disappointed - Heralded	Baxter suspected he was a victim of an online scam.  He could not contact online customer support because the seller had blocked his phone number.	"Where on earth is that deliveryman? It's been 2 hours!" he barked.	Decided to contact the seller via that messenger on the website.
<b>Backstory / Body</b>	- Disappointed	The account had been blocked from contacting the seller and he depend on game.	"The number you just dialed is not in use," said the voice.	
<b>Backstory / Body</b>	- Frustrated - Impatient	Baxter used an online shopping website to make a game console for a long time.  He engaged a seller by the name "Charles" who asked for a deposit of \$100 to receive the product reservation.		who did request received a sudden refund of his cash.
<b>Climax</b>	- Depressed - Disappointed	He decided to confirm his suspicions by checking the reviews.		finally returned the console such a disappointment.
<b>Resolution / Conclusion</b>	- Embarrassed - Guilty	The seller's page was flooded with hundreds of complaints and warnings.		
<b>Resolution / Conclusion</b>	- Not realising in regret and self-pity for too long.	Baxter readily reported the scam to the website helpline as well as the police. He was informed that the culprit had been apprehended.	"Oh, God answered my prayer! Justice was served!" Baxter barked.	would be the same gullible was. Justice

**Self-Practice 1**

	Feelings	Actions	Speech	Thoughts
<b>Intro / Conflict</b>				
<b>Backstory / Body</b>				

## Planning Structure

Each Writing Task comes with a sample F.A.S.T planning structure and provides an opportunity for the students to practise and have their own version.

## Model Compositions

Each Writing Task also comes with a model composition with key clauses/phrases highlighted to further guide the students in their essay writing.

**Model Composition**

### An Online Scam

"Where on earth is that deliveryman? It's been two hours!" Baxter barked. His disappointment over the late arrival of his game console quickly morphed into anxiety. Patience was not his strongest suit, especially when it concerned his games. Soon after, his patience reached its limit. He dialed the online seller's number hoping to get a reasonable explanation. Alas, within seconds of dialling, the next thing he heard was the start of an agonising nightmare.

"The number you just dialled is not in use."

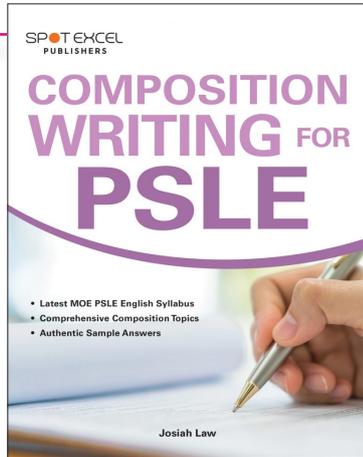
The operator's dry voice sent shockwaves throughout Baxter's body, naturally reeling red as anger started brewing in him. Baxter refused to believe ears. How could this be? Just two hours ago, he was bawling with excitement upon a deposit of \$100 to purchase his Nintendo Switch. An online seller by the name 'Charles' was selling the game console for half its retail price and promised it be delivered in an hour's time. So why did he become suspiciously uncontactable all of a sudden?

Desperate for answers, Baxter quickly tried to send a chat message to the "What! I've been blocked!" exclaimed Baxter. By this time, Baxter's palms had excessively sweaty. He was panicking—did he unknowingly give away that he was a victim of such a simple yet deceptive scam. The sheer embarrassment overwhelmed his mind. If only he had been patient and cautious enough the reviews before buying, he would not have made such a blunder! Still, not one to wallow in regret and self-pity for too long. He swiftly reported the website helpline as well as the police. Leaving it to the authorities was the best he could do at that point.

### Key Clauses / Phrases

- Introduction**
- disappointment over the late arrival of his game console quickly morphed into anxiety
  - Patience was not his strongest suit
  - the next thing he heard was the start of an agonising nightmare
- Body**
- The operator's dry voice sent shockwaves throughout his body
  - cheeks naturally swelled red as anger started brewing in him
  - he was bawling with excitement when he paid a deposit
  - became suspiciously uncontactable all of a sudden
  - palms had become excessively sweaty
  - decided to confirm his suspicions by checking the reviews
  - game console escaped his lips
  - page was flooded with hundreds of complaints and warnings
  - finally acknowledged that he was a victim of such a simple yet deceptive scam
  - not one to wallow in regret and self-pity for too long
  - swiftly reported the scam to the website helpline as well as the police
  - informed that the culprit had been apprehended
- Conclusion**
- unsettled heart was rid of all despair
  - Justice was served
  - If only he had... would not have made such a blunder
  - did not forget, however, how he landed in the predicament in the first place
  - would not remain the same naive and gullible boy he once was

## Composition Writing for PSLE



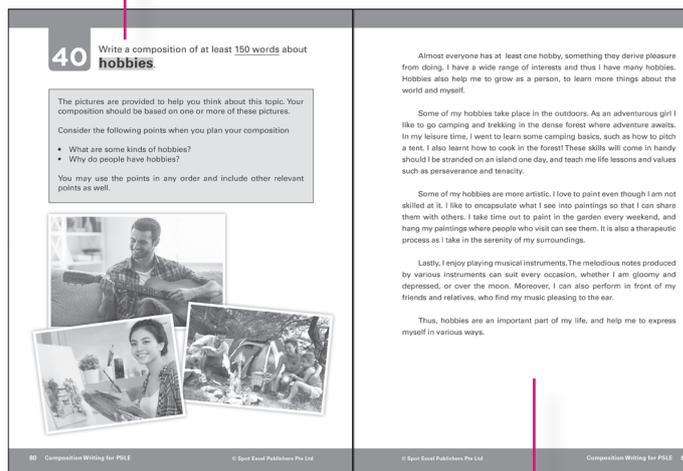
ISBN: 9789811170973

Composition Writing for PSLE is a guide book that helps students generate relevant ideas and express themselves in a coherent and cohesive manner.

With a variety of topics and exemplars, students are encouraged to use a variety of vocabulary creatively in order to suit the respective purpose, audience and context given in the examination questions. By modelling the sample essays, students can develop their own unique style of writing in a confident and enjoyable learning approach.

### Comprehensive Topics

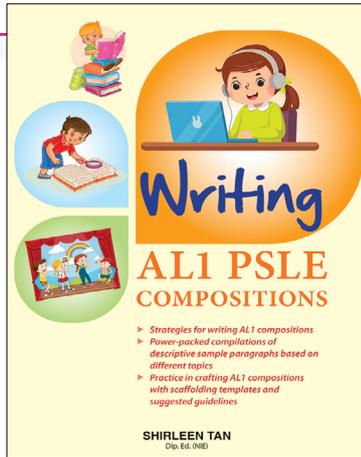
Chapters cover a wide range of topics to increase students' general knowledge.



### Practices with Sample Answers

Supports learning with a sample composition passage for each practice.

# Writing AL1 PSLE Compositions



ISBN: 9789814996471

Writing AL1 PSLE Compositions is a great tool to help students improve their writing skills. This book is crafted to teach students how to write more expressively, using the D.A.R.T method.

Writing AL1 PSLE Compositions is divided into three parts:

- Section 1: Strategies for writing AL1 compositions
- Section 2: Partial Composition Crafting Chronicles
- Section 3: Crafting AL1 Compositions

Writing AL1 PSLE Compositions

### HOW TO D.A.R.T. YOUR COMPOSITION WRITING

Many students lack the patience to plan thoroughly before fleshing out their stories. A good storyteller takes time to plan, plot and present his story that will garner praises from his audience. You, the student, are the "storyteller", and the "audience" is your teacher/ marker/grades. To get a reader "hooked" on your story, a well-executed plot is crucial. We have since developed a simple yet effective D.A.R.T. strategy to help our students strengthen their story plots and beef up their descriptive phrases. D.A.R.T. strategies aim to help students make an impactful presentation to the audience.

This is what D.A.R.T. stands for:

- D** Descriptive Phrases
- A** Adopt/Adapt Ideas
- R** Realistic Story Plots
- T** Twist in Ending

## Writing Strategies

In Section 1, a detailed description of the D.A.R.T strategy aims to direct students into strengthening their story plots and beefing up their use of descriptive phrases. There are some exercises in this section for students to practise on, which help them to further improve the flow of their composition writing.

Writing AL1 PSLE Compositions

### Sample Composition and Guide

Paragraphs	Planning process
"Click to win! Send my details within five minutes, and I can win a trip to the Trick Eye Museum! Interesting..." Kian Seng murmured to himself. He was using the family laptop to complete his school project, when a pop-up advertisement caught his attention. Kian Seng had always wanted to tour the much-raved-about museum, but his parents were always too busy with their work. "If I could just win the deal, I will go on my own!" Kian Seng decided there and then, and (a) after glancing to some details featured on the keyboard and he clicked the "Enter" tab, Kian Seng was soon absorbed back into his school project, even forgetting what had transpired seconds ago.	(a) Exposition: Introduction of character (b) Change: Start of problem
"Seng! Time for lunch! Switch off the laptop and come right here at the table now!" (c) a shrill voice burst through Kian Seng's train of thought as he was fully immersed in his school project. With a sigh, Kian Seng obediently saved his project in the laptop and walked towards the dining table. (d) It was a Saturday afternoon, and although the sun was beating mercilessly on the earth, Kian Seng's house was sheltered by a lush array of trees which provided the much-needed relief and respite from the sun. The smell of his mother's home-made chicken pie and beefsteak was strong enough to permeate the whole house. Kian Seng realised he was famished, no, ravenous! He joined his family members and was about to tuck into the warm and comforting food...	(c) Introduction: Kian Seng's mother (d) Description: the weather, his home, food
(e) "Hey, why was I charged \$1,000 on my credit card an hour ago?" Kian Seng's father, choked on a piece of chicken meat as he scrolled through his handphone message. Everyone looked at him in bewilderment. Kian Seng's older sister shook her head nonchalantly while his younger brother continued eating, not fully aware of the conversation. "It is from a 'Click to Win' advertisement."	(e) Rising action: Kian Seng's father was shocked to see the charge. Kian Seng was guilty.

## Practices with Sample Answers

In Section 3, students are shown how to flesh out their writing chops with the scaffolding templates and suggested guidelines given. This section is divided into three parts:

- Part 1: Plot crafting
- Part 2: Sample composition guides with process planning
- Part 3: Proof that showing is better than telling

Section 3 Partial Composition Crafting Chronicles

### Topic 3 Describing School

Compo Crafting 1:  
Describe your first day of school.

I stepped eagerly into the school compound, wide awake and excited, as dawn broke. The morning sun filtered through the leaves and the air was warm and inviting. It sure was a good start! My shoes were squeaky clean and new, and my uniform was crisp and bright. I bade goodbyes to my mother and walked with a spring in my step into the hall, led by one of the schoolteachers. My friends and I were ushered into our classrooms, where we put our belongings on our chairs. We were then told to follow the school prefect to the hall for our first formal assembly...

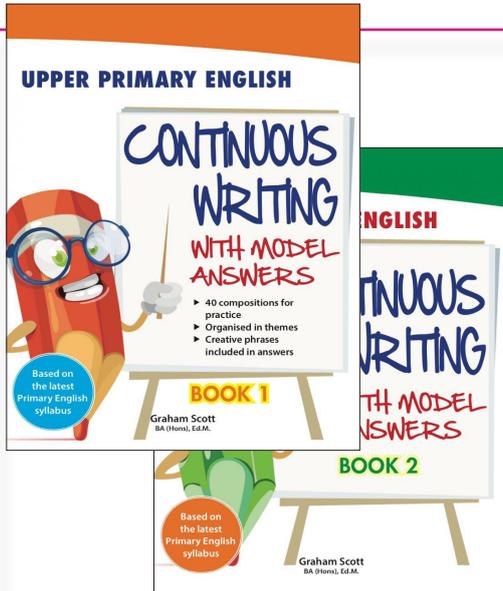
Compo Crafting 2:  
Describe whether you like to be in school.

School is fun! I get to learn new things every day! I get to ask a myriad of questions and get them answered patiently by my teachers. I get to be away from my parents, who want to instil discipline and independence to build my character. I get to make new friends and learn from my peers. I get to eat healthy food during recess too! Although the school hours are longer compared to kindergarten and I tend to get sleepy, I still enjoy going to school. Although some teachers are fierce and scary, I still love my school!

## Power-Packed Descriptive Paragraphs

Section 2 comprises a wide variety of power-packed compilations of descriptive sample paragraphs based on different topics. This resource is helpful for students when they need quick help in describing a particular scenario or a specific theme and have no idea how to start.

# Upper Primary Continuous Writing



Upper Primary English – Continuous Writing with Model Answers Books 1 and 2 provide a practical guide for students who will be sitting for the PSLE English examinations. Each book comprises 40 model compositions which are organised according to different themes.

There are many ways to write a great composition, and these ways typically involve writing elements such as organising the information in a logical sequence, generating interest to capture the reader’s attention and giving the story proper closure. This series will help students learn about and prepare for their examinations in a more efficient and systematic way.

Book 1 ISBN: 9789811401206

Book 2 ISBN: 9789811401473

**Question 1**

Part 2: Continuous Writing (40 marks)

Write a composition of at least 150 words about going into hiding.

The pictures are provided to help you think about this topic.

Your composition should be based on one or more of these pictures.

Consider the following points when you plan your composition:

- Who went into hiding?
- Why did they go into hiding?

You may use the points in any order and include other relevant points as well.

**Question 36**

Part 2: Continuous Writing (40 marks)

Write a composition of at least 150 words about the apprentice.

The pictures are provided to help you think about this topic.

Your composition should be based on one or more of these pictures.

Consider the following points when you plan your composition:

- Why the apprenticeship came about?
- What kind of apprentice was the person?

You may use the points in any order and include other relevant points as well.

**Suggested answer**

**Grey dust clung on to the construction site's atmosphere like a shroud** as the morning overclouded in and started dispersing to their respective stations. The wrecking-ball operator, Max, sat in his small cabin and peered down at the line of migrants filing in, one truckload after another. They would take up their shovels and wheel barrels to remove the rubble. At least Max **had the ease of the machine to be grateful for**. As the dust struck night, **he twisted the keys to the ignition and the machine rumbled to life**. The constant high-pitched beeps of the machine, as it reversed and turned on the unlevelled ground, rang in Max's ears. But he has grown used to it over the past six years. It is routine now.

"All clear?"

**His supervisor's voice cracked through the dust-filled speakers of Max's walkie-talkie**. The last building in this area is now ready for demolition. Max flicked the switch for the wrecking ball. **He clenched his jaw and waited for the ball to swing over and strike the concrete**. His cabin **shook from the tremor** as the ball smashed through the wall. **Concrete dust plummeted out, like thick fog, from the fresh rubble**. As Max backed his destruction machine to aim for another bit, the familiar voice boomed from his walkie-talkie.

"All clear?"

**STOP!** Someone has been hit!

Max struck his foot on the emergency brake. His heart was hammering in his chest and his mind was **immediately surging with thoughts about killing someone and returning to his village, stripped of his livelihood. Has his luck finally run out?**

**Knowing that his voice would barely register above the roar of the engine**, Max deserted his walkie-talkie and made his way to the accident area. Upon reaching, he saw a migrant worker sitting down and clutching his head and **blood oozed out like the Nile**.

"He had been hit by one of the small concrete pieces as it fell on him from the crumbling building. We have called for the ambulance. You do not have to worry. It is not that serious."

Max's supervisor's voice **sounded like a sweet lullaby in his ears**. Despite feeling sorry for the victim, he heard a sign of relief upon realising that he will not be sent home after all.

**Suggested answer**

From behind the ragged cotton curtain, Adina watched as four men in brown uniforms ambled towards the house, after downing sandwiches from the push-cart across the street. Her glazed eyes were fixed on their red swastika armbands that **seemed hard to miss under the blinding sunlight. Adina held her breath as the armbands awoke memories of what men in those uniforms did to her Jewish family**.

Aunt Mary had hurriedly sent Adina to the basement when **she heard their clomping military boots in the distance**. She had no idea why they were approaching her house but **all she knew was to ensure that Adina stays well out of their sight**. The young girl was the only surviving member of the neighbour's family after the rise of the Nazis in Germany.

**Aunt Mary was determined not to let the Nazi regime lay their hands on Adina**, as well.

Aunt Mary had just pushed the bookshelf to hide the basement entrance when **the main door rattled violently as one the men banged on it relentlessly with his fist**. Before the door could break open, Aunt Mary opened it.

"Good afternoon, Madam. Sorry to disturb you but **a little bird has told us that there may be someone of importance to us hiding under this roof**. We would just like to have a look around and soon be on our way."

**His malicious eyes staring at Aunt Mary betrayed the smile that was dancing on his lips**. She led the soldiers in to snoop around her house, in their vigorous jostling of the tablecloths and shuffling of furniture, **the suspicious men turned the house upside down**. Aunt Mary stood rooted to a spot, **silently praying** that they do not move the bookshelf, when the men stopped all activities and dragged themselves towards the exit.

"We will let you go, now. Do let us know if you know anyone who you would like to report to us." The men left her door while grumbling under their breaths.

**"Over my dead body,"** Aunt Mary whispered and shut the door behind her.



## Practices with Answers

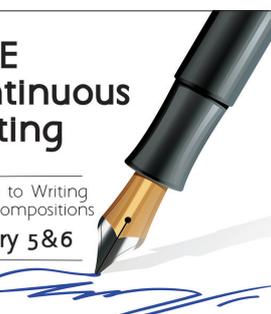
Model essays provided have useful phrases highlighted for easy identification and efficient studying.

# PSLE Continuous Writing

## PSLE Continuous Writing

A Guide to Writing Better Compositions  
Primary 5 & 6

- ▶ 30 writing practices with interpretations
- ▶ Tips on writing using a theme-based approach
- ▶ Helpful guidelines to unpack task requirements



Joshua Meyyappan  
BA (Hons) Education, Master of Mass Communication  
Gifted Education Programme Trained

ISBN: 9789811499227

In this book, the author shows students how to plan good compositions in a unique and entertaining way. This approach is novel because it focuses not on the plot, but on the theme. Using this approach, students will learn how to craft better compositions.

PSLE Continuous Writing - A Guide to Writing Better Compositions Primary 5 & 6

### The Task

Write a composition of at least 150 words about **A Lie**.

③ The pictures are provided to help you think about this topic.  
Your composition should be based on one or more of these pictures.

④ Consider the following points when you plan your composition:

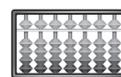
- ▶ What was the lie?
- ▶ What was the consequence of the lie?

You may use the points in any order and include other relevant points as well.

- KEY
- ① Word Count
  - ② Theme
  - ③ Pictures
  - ④ Guiding Questions
  - ⑤ Other relevant points



### 1. Word Count (or Why count words when you can make word count!)



You may wonder why the task mentions a specific number of 150 words. You may have guessed or found out that just writing 150 words may result in a dismal score. This does not mean, it is impossible. To understand the word count requirement, we must understand what the task is.

The task requires you to bring out the theme in a story using one or more of three pictures. To bring out the theme, a story must have a suitable introduction, events, problem, climax, resolution and conclusion. Is this all possible in 150 words? Maybe. It is easy to demonstrate well-developed content using advanced vocabulary in 150 words? Probably not.

Bear in mind the meaning of the words 'at least'. This is **not a word limit**. A word limit would begin with the phrase 'at most'. This means that **without 150 words, a passing score is unlikely**. At the same time, even if a student writes 300 words (unlikely within the time limit), she or he will not pass if the writing is not based on the theme.

So, what is a good guide and do we actually count the words? Typically, a high scoring piece (above 30) would be about 3 sides of foolscap paper. This is not to say this is always the case. **What is important is whether the content is sufficient for the theme to come out clearly.**

## Understanding the Task

Helpful guidelines to unpack task requirements.



### Section B

## 5 Keys to Unlocking the Treasure Chest

The 5 Keys  
- Using the example theme, 'Courage'

- DEFINITION:** What does 'courage' mean?
- REASONS:** Why be courageous?
- CONSEQUENCES:** What happens when we are not courageous?
- EXAMPLES:** What are examples of courage?
- FEELINGS:** What are some feelings that are experienced when we try to be courageous?



PSLE Continuous Writing - A Guide to Writing Better Compositions Primary 5 & 6

### Introduction to the 5-Keys Approach

The 5 Keys Approach is a way to plan your compositions. **Though there are 5 keys, you do not always have to use all 5 keys to unlock a theme.** You have the option of using as many of the 5 as you want. This approach does not focus on the plot like different versions of the 'Story Mountain'. Instead, it focuses on the theme. The theme is the content and it has to come through a plot. Content marks are given for theme and plot and will try to convince you that even without a plot you can get very good scores if you demonstrate deep understanding of the theme.

### Why theme is all important

There have been students who have gone off the beaten track and tried something other than the usual narrative style of story writing to obtain scores in the elusive regions of above 35. Let me give you an example. For the theme of forgiveness, someone wrote a letter from a grown-up daughter to her mother. In this letter, the daughter writes emotionally about how her mother was absent when she was growing up and how that had hurt her deeply. Now that the author (the daughter) was older, she realised her mother's difficulties in raising her and so she tells her mother that she forgives her for all the hurt. It was a very touching and heartfelt letter and the theme of forgiveness came through strongly. **There were no events, problems, climax and resolution and yet the student scored her writing task.** This suggests that the theme (more than the plot) is crucial.

With that out of the way, let us understand exactly how to go about what might seem (only initially) like a time-consuming exercise to uncover the theme.

### Key #1: First Thing - Working Definition of Courage

The first thing to do when you receive your writing task is to take note of the theme. Then, you come up quickly with a working definition. **This is the first key and must be used first. All other keys can be used in any sequence.** As mentioned earlier, definitions are anything but definite (fixed and unchanging). Words take on different meanings depending on where they are found. This frees us from worrying too much about getting the definition 'right'. In other words, you do not have to come up with something that appears like an entry in a dictionary.

Let us try by considering the theme, 'Courage'. How would you define courage? To define 'Courage', we have to come up with a few words or a sentence that shows the meaning of the word. Easier said than done.

14

## Writing Practices

30 writing practices with sample interpretations.



## Theme-based Approach

In-depth tips on writing using a theme-based approach.

PSLE Continuous Writing - A Guide to Writing Better Compositions Primary 5 & 6

### Practice 1 - Forgiveness

#### What is forgiveness?

To forgive someone is to no longer be upset, angry or hold in your heart any other unpleasant feeling towards him because of something you feel he should not have done.

We have heard of the phrase, 'Forgive and forget'. Forgiving someone does not necessarily mean we forget what has happened. What it does mean is that we no longer feel the sting of what he did.

We may or may not want to continue the relationship with the one we decide to forgive. It means we no longer demand some kind of payment from the person we forgive.

#### When do we forgive?

We assume that forgiveness can only be granted after someone has apologised. This need not be the case, especially if we no longer, for some reason, want to continue being friends. Forgiveness is a choice we make because we see how harmful holding a grudge is, to our emotional, mental and even physical well-being.

If a person apologises, it may be because he hopes to continue a relationship with the one he has done wrong against. It could also be because he feels a burden in his heart and he is angry with himself. He may not be expecting forgiveness. However, receiving forgiveness might help him feel lighter and believe he can be a better person.

Another assumption we make is that forgiveness is given by one person to others. Sometimes, we need to forgive ourselves. This means we stop blaming ourselves and try our best to not repeat our mistakes.

94

Section D 5 Keys Approach - Practising with Themes (Possible Interpretations)

### Practice 1 (5 Keys)

#### Reasons

- ▶ To stop feeling unpleasant emotions.
- ▶ To continue a relationship.
- ▶ To become a better person (if you are forgiving yourself).
- ▶ You understand that everyone including yourself does wrong against others at some point even if you did not mean to.

#### Feelings

- ▶ Anger
- ▶ Disappointment
- ▶ Judgmental
- ▶ Sanness
- ▶ Bitterness
- ▶ Relief (at being forgiven)
- ▶ Gratitude (for a second chance)
- ▶ Peace (putting the past behind you)

#### Examples

- ▶ To let go of ill feelings towards a parent who has been absent.
- ▶ To let go of ill feelings towards a sibling who has taken all of your parents' attention.
- ▶ To let go of ill feelings towards a friend who hurt you deeply with his words and actions.
- ▶ To let go of ill feelings towards someone who has committed a crime against you because this person has been imprisoned.

#### Definitions

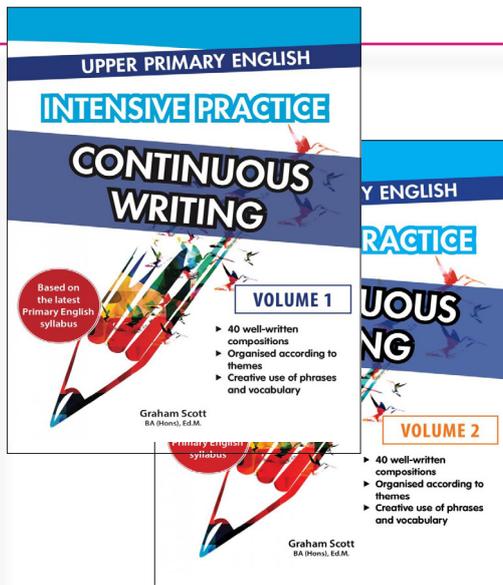
- ▶ To let go of ill feelings towards yourself, someone or some others for something you feel should not have been done.

#### Consequences

- ▶ Not forgiving someone could result in mental and emotional distress.
- ▶ Not forgiving someone could affect every other relationship we have in the future.
- ▶ Not forgiving someone would mean we are reliving a negative experience over and over again.

95

## Intensive Practice Series



### Continuous Writing

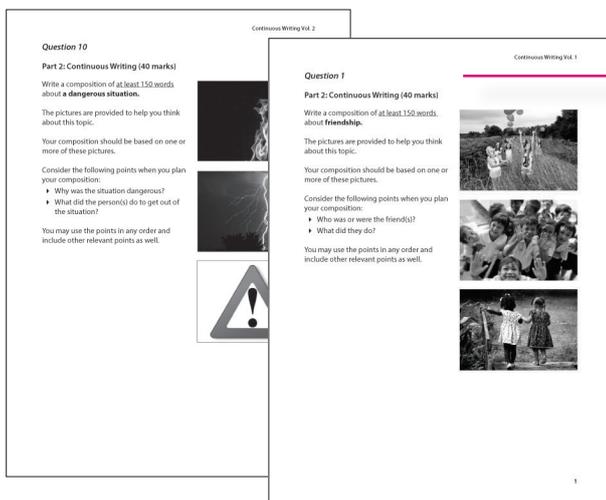
Volume 1 ISBN: 9789811401190

Volume 2 ISBN: 9789811401213

Intensive Practice – Continuous Writing is written to provide a practical guide for students who will be sitting for the PSLE English examinations. This book comprises 40 model compositions which are organised according to different themes.

There are many ways to write a great composition and it involves writing elements such as organising the information in a logical sequence, generating interest to capture the reader's attention and giving the story proper closure.

This series will definitely help students improve their writing and prepare for their examinations in a more efficient and systematic way.



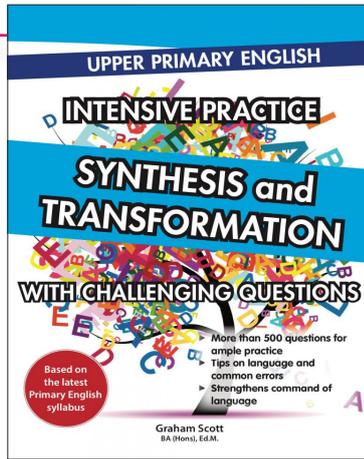
### Comprehensive Topics

Topics covered are extensive to prepare students for any type of question they may receive in PSLE.

### Suggested Answers

Allows students to learn useful vocabulary and phrases from model essays to apply in their own writing.





With more than 500 questions to practise combining and transforming sentences, this series prepares students for the Synthesis and Transformation section of the English Language examination paper.

Chapters are arranged thematically to expose students to the use of connectors in a variety of synthesis and transformation processes. Complete answers are provided for effective self-assessment.

## Synthesis and Transformation

ISBN: 9789811199646

### Comprehensive Topics

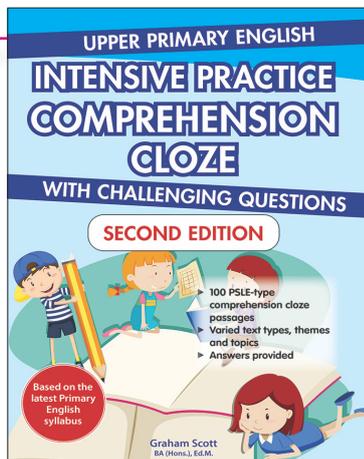
Topics cover an extensive range of connectors used in the synthesis and transformation process as well as aspects of grammar so that students are well-equipped to answer all variations of Synthesis and Transformation questions.

**THEME 8**  
**EMPHASIS**

- Jane was absent for many days. She was sent to the principal's office \_\_\_\_\_ so \_\_\_\_\_ that \_\_\_\_\_.
- I am trying very hard to solve this question. I still cannot solve it. No matter how \_\_\_\_\_.
- The box is heavy. Sam cannot lift it. \_\_\_\_\_ so \_\_\_\_\_.
- Raina woke up late. Her friends left without her. \_\_\_\_\_ so \_\_\_\_\_ that \_\_\_\_\_.
- It was a humid afternoon. They decided to stay indoors. \_\_\_\_\_ such \_\_\_\_\_ that \_\_\_\_\_.

**THEME 10**  
**DIRECT AND INDIRECT SPEECH**

- "You are not allowed to go out," Mum said to Tim. Mum said to Tim \_\_\_\_\_.
- "I can't wait for the movie!" Claire exclaimed. Claire exclaimed \_\_\_\_\_.
- Fiona asked the teacher, "May I go to the toilet?" Fiona asked \_\_\_\_\_.
- The criminal denied, "I did not break into the house." The criminal denied \_\_\_\_\_.
- "This drink is too bitter!" Gene said with a frown. Gene said with a frown \_\_\_\_\_.



Mastering cloze passages requires practice. The Upper Primary English Intensive Practice Comprehension Cloze assessment book has 100 PSLE-type comprehension cloze passages for students to prepare for the PSLE examinations. In this assessment book, there are various text types on interesting themes and topics to encourage reading and pique curiosity in diverse subject matters, which makes learning enjoyable.

## Comprehension Cloze

ISBN: 9789811487620

Upper Primary English Intensive Practice Comprehension Cloze (Second Edition)

**Scoring Well for the Comprehension Cloze Passage**

15 blanks for 15 marks - The Comprehension Cloze Passage section can either be an easy way of securing marks or a danger zone where marks are lost very quickly. Indeed, students either do extremely well in this section if they understand the prerequisite skills and are able to apply them, or are at a loss when they see the blanks in the passage. The key phrase here is 'prerequisite skills' - it requires students to activate various language skills, not just one specific one. This is what makes this section challenging, but also a good test of students' proficiency in the subject.

So, what are the skills involved? Practically all of the skills in language are involved to one extent or another. They include reading, vocabulary, grammar, spelling, oral and writing. A short description of what each skill entails and how it is relevant to the Comprehension Cloze Passage Section is included in the table below, the letter of which will be expanded upon later on.

Introduction

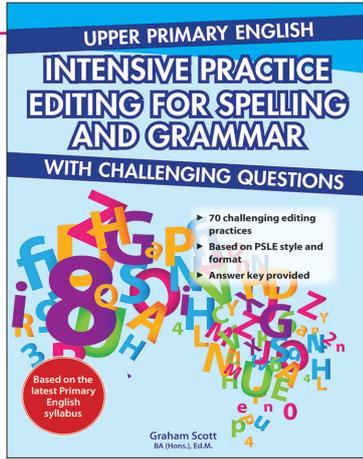
**Description of various skills in English and how they are relevant to comprehension cloze**

Skill	Description	Relevance to comprehension cloze
Reading	Reading involves the understanding and comprehension of texts in the language. To derive meaning through both individual words/phrases as well as in grammatical sentences.	Reading is what students need to do before they begin to try to figure out what to fill in the given blanks. It is only after thorough reading that they can derive the overall message of the passage. Proofreading at the end will also help one to check one's answers.
Vocabulary	Vocabulary refers to knowing the meaning of words in the English language. Being exposed to new words and retaining their meaning can help one 'grow' one's vocabulary.	Having a wider vocabulary means more ideas as to what to fill for the comprehension cloze passage.
Grammar	Grammar refers to knowing the rules of the English language which governs how words come together to form sentences. The ability to write grammatically as well as to derive meaning from looking at the grammar of sentences are both important.	Having a good grasp of sentence structure will give students contextual clues as to what type of word should be in the blank (e.g. nouns, adjectives or verbs). It is also important for students' answers to adhere to the grammar of the overall comprehension passage or the sentence at the local level.
Oral	Oral skills refer to speaking in the English language, using appropriate grammar and vocabulary. One should also take into consideration variations in tone and context.	While the comprehension cloze is a written section, spoken test may be included in the passage. Having oral skills will give one a better sense of what is appropriate to fill in the blanks within the context of a spoken sentence.
Spelling	Spelling refers to the accuracy of how words are written.	The accuracy of spelling is taken into consideration when deciding whether the answer is marked correct.
Writing	Writing refers to being able to produce text in the language, again using appropriate grammar and vocabulary, as well as taking into consideration variations in tone and context.	Being able to write well will help students to know what is appropriate in the comprehension cloze passage blanks, even though he or she does not have to write full essays or in sentences.

### Tips

Tips are provided to guide students to score for comprehension clozes.





## Editing for Spelling and Grammar

ISBN: 9789811487682

Upper Primary English Intensive Practice – Editing for Spelling and Grammar is a collection of editing exercises designed to provide students with sufficient practice to tackle the editing section. Students will be presented with a wide array of questions to equip them with the necessary skills to master spelling and grammar and tackle the editing section at the upper primary level.

CONTENTS		
Practice 1	The Only Child	1
Practice 2	Childhood	3
Practice 3	Christmas	5
Practice 4	Day One	7
Practice 5	Beauty	9
Practice 6	Weight	11
Practice 7	Clothes	13
Practice 8	Imagination	15
Practice 9	Pets	17
Practice 10	Stuffed Toys	19
Practice 11	History	21
Practice 12	Time	23
Practice 13	Water	25
Practice 14	Outlets	27
Practice 15	Races	29
Practice 16	Rock Bottom	31
Practice 17	Fairy Tales	33
Practice 18	Visiting	35
Practice 19	Reading	37
Practice 20	Poetry	39
Practice 21	Courage	41
Practice 22	Introductions	43
Practice 23	Cosmetics	45
Practice 24	Growing Up	47
Practice 25	Academics	49
Practice 26	University	51
Practice 27	Electricity	53
Practice 28	Granola	55
Practice 29	Addiction	57
Practice 30	Cars	59
Practice 31	Social Media	61
Practice 32	Sarcasm	63
Practice 33	Confession	65
Practice 34	Video Games	67
Practice 35	Senses	69
Practice 36	Fashion	71
Practice 37	Celebrities	73
Practice 38	Homographs	75
Practice 39	Stress	77
Practice 40	Love	79
Practice 41	Diets	81
Practice 42	Intelligence	83
Practice 43	Graphics	85
Practice 44	Materialism	87
Practice 45	Work	89
Practice 46	Habits	91
Practice 47	Wealth	93
Practice 48	Charity	95
Practice 49	Play Time	97
Practice 50	Sleep	99
Practice 51	Humours	101
Practice 52	Gardening	103
Practice 53	Goldfish	105
Practice 54	Water	107
Practice 55	Crying	109
Practice 56	Superiority Complex	111
Practice 57	Exercise	113
Practice 58	Colours	115
Practice 59	Leeches	117
Practice 60	Maps	119
Practice 61	Mirrors	121
Practice 62	Darkness	123
Practice 63	Fear	125
Practice 64	Breakfast	127
Practice 65	Knitting	129
Practice 66	Ambitions	131
Practice 67	Morals	133
Practice 68	Spices	135
Practice 69	Fire	137
Practice 70	Bilingualism	139
	Answers	

**Practice 1 – The Only Child**

Each of the underlined words contains either a spelling or a grammatical error. Write the correct word in each of the boxes. (12 marks)

I was an only child. It did get lonly sometimes.

I never allowed it to dampen my love for life. Life is like a rollercoaster ride, having both its ups and downs. A who do not love rollercoaster rides? Having spent a decade as the solby child in my family, I had amassed various tricks to alleviate my feelings of loneliness. Allow me to share my secret. My life mostly revolved around self-entertan

Upper Primary English Intensive Practice – Editing for Spelling and Grammar

which came in hand to allow me to have an exciting childhood, almost comparable to the lives of those with siblings.

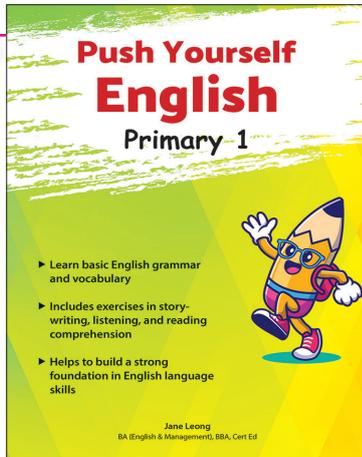
It all changed one day. My construction of a seemingly tranquil, perfect world was shattered. My parents announce that they were respecting another child; a sibling for me. By default, I was no longer the only child. How that was going to work out, I have no idea.

## Practices

70 challenging editing practices based on PSLE style and format.



## Push Yourself English



ISBN: 9789814996105

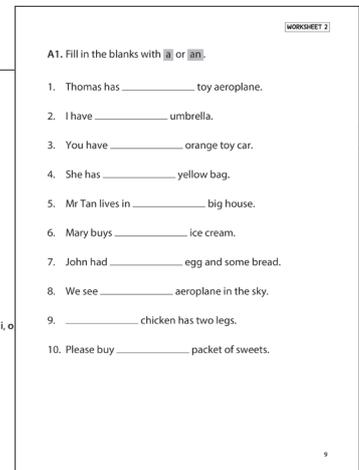
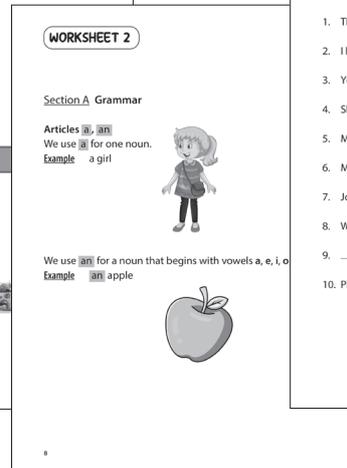
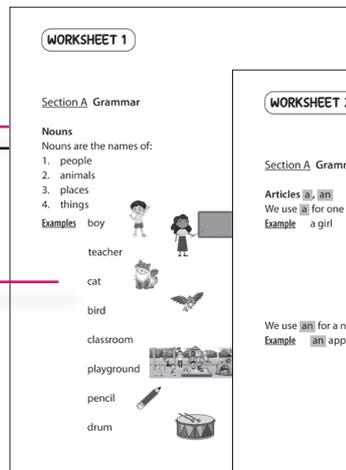
Push Yourself Primary 1 English is designed to help pupils to learn basic English grammar and vocabulary. Additional exercises in story-writing, listening, and reading comprehension are included.

It is recommended for parents or teachers to go through these exercises together with the students.



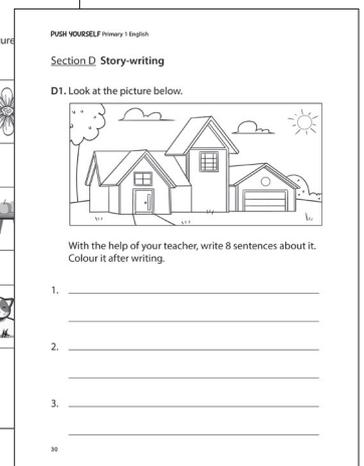
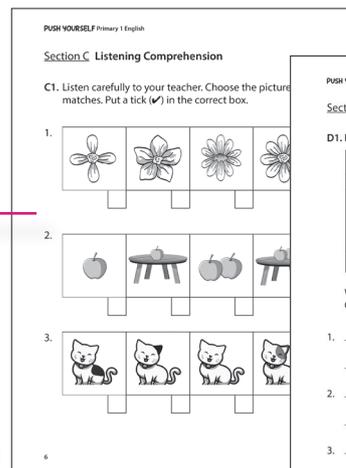
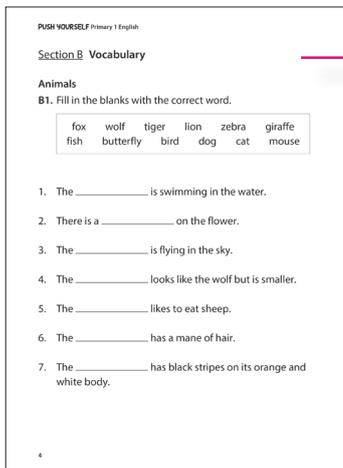
### Section A

Each worksheet is structured with an introduction to a new concept in the English language. These are followed by exercises for students to practise the new concepts that they have learnt.



### Section B

Students are introduced to new words and their usage in sentences to expand on their vocabulary knowledge for school.

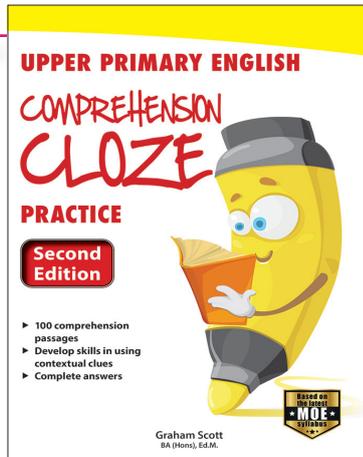


### Sections C & D

These sections are designed to help students build on their listening and reading comprehension skills.



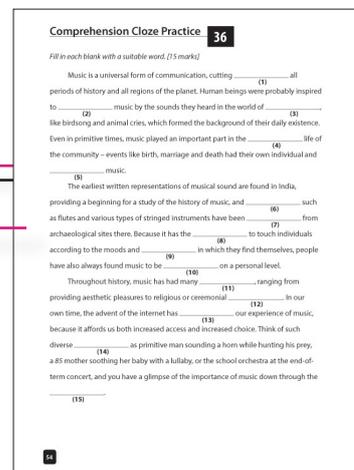
## Upper Primary English



**Comprehension Cloze**  
ISBN: 9789811801464

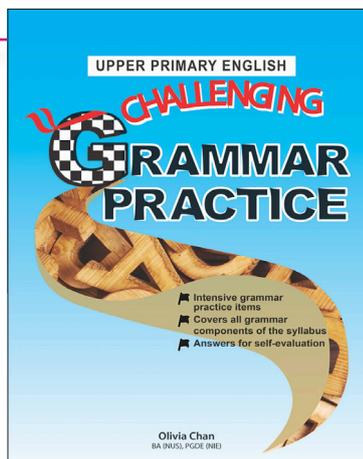
This practice book contains 100 passages for students to have adequate practice for the comprehension cloze passage component of the English paper.

With more practice, students will be able to develop the skills needed to successfully identify the contextual clues and use them to find the right word needed.



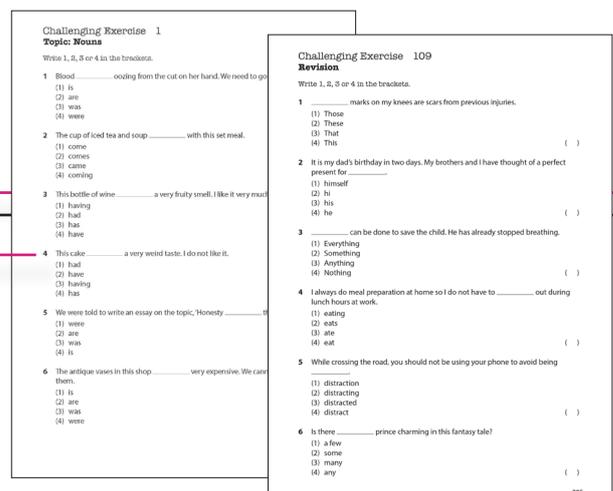
### Practices with Answers

The practices come with answers to allow students to perform a self-evaluation of their answers and learn from their mistakes.



**Challenging Grammar Practice**  
ISBN: 9789811420276

This book is written to help students recognise and correct common errors in grammatical and structural language through practice. It provides students with ample practice to learn and understand the rules of grammar in order to achieve accuracy in using English. It also helps students to build a strong foundation in English grammar and do well in their examinations.

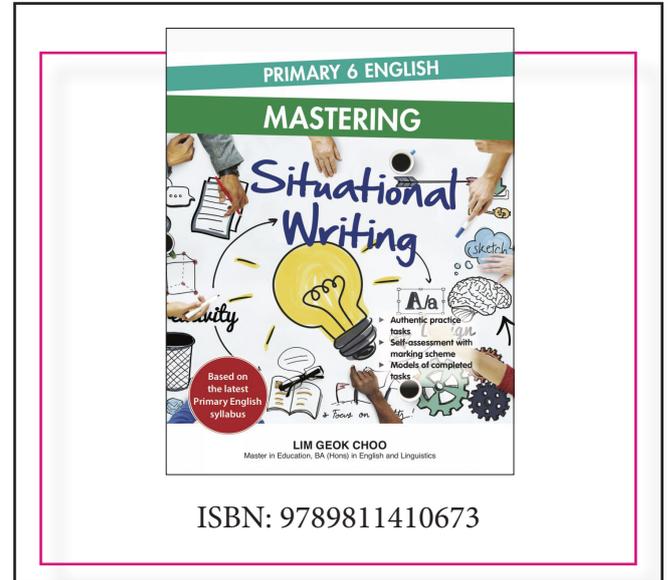
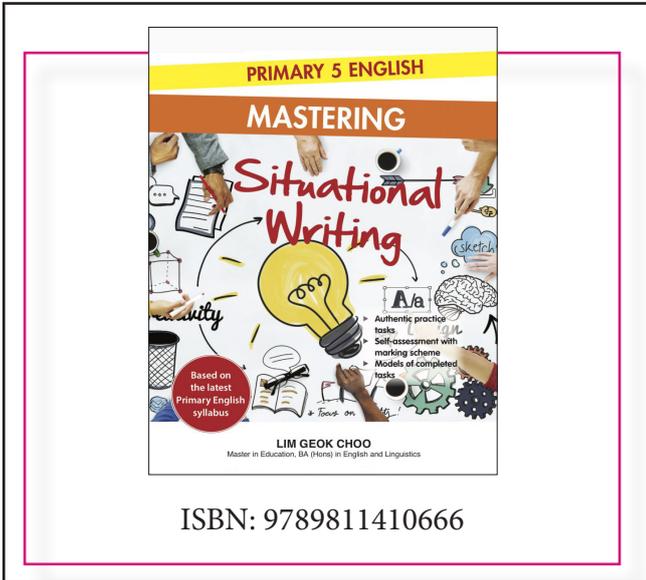


### Topical Exercises & Revisions

Exercises are arranged by topic and include revision exercises which contain questions on all topics.

# Mastering Situational Writing

Situational writing is the writing of a short functional piece such as a letter, email, report, etc., that suits the purpose, audience and context (PAC) of a given situation.



Primary 5 English - Mastering Situational Writing

**Sample Stimulus**

The pictures below show Mary and Andy talking about the good deeds of their classmate Alex. Study the given pictures and information carefully.

**Sample Task**

**Your task**

Imagine you are Andy Lee.

Write a letter to your principal, Mrs Quek, to nominate Alex Wan for the Youth Care and Compassion Award.

You are to refer to the given pictures and information for your letter.

In your letter, include the following information:

- what Alex does to help his classmate
- why his classmate needs help
- when Alex helps this classmate
- which class Alex is from
- another good deed Alex is doing
- when Alex is doing this good deed

You may reorder the points. Write in complete sentences.

## Sample Stimulus and Task

Authentic tasks commonly found in interpersonal, social and cultural situations develop students' language ability based on context, purpose and audience.

## Practices with Marking Schemes and Answers

Supports learning with answer keys that highlight examples of both good and inadequate understanding of the PAC. Answers are shown in a table format with bullet points to allow easy reading for better understanding.

Primary 5 English - Mastering Situational Writing

**Situational Writing Practice 7**

**Task Fulfilment (4 marks)**

PAC	Good understanding and awareness	Inadequate understanding and awareness
<b>Purpose</b>	<ul style="list-style-type: none"> <li>to nominate someone for the Caring Neighbour Award</li> </ul>	<ul style="list-style-type: none"> <li>would like to tell you about Ben Loon</li> </ul>
<b>Audience</b>	<ul style="list-style-type: none"> <li>Dear Sir,</li> <li>Dear Madam,</li> <li>Dear Manager,</li> </ul>	<ul style="list-style-type: none"> <li>Hi, Manager!</li> </ul>
<b>Context</b>	<ul style="list-style-type: none"> <li>formal</li> <li>based on a 12-year-old communicating with a respected adult</li> </ul>	<ul style="list-style-type: none"> <li>informal</li> <li>many contractions</li> </ul>
<b>Signing off</b>	<ul style="list-style-type: none"> <li>Yours faithfully,</li> <li>Full name, e.g. Arfan Bin Mohamad Ali, Lee Tock Ming, Jerry Tan, Kumar v/s Raju</li> </ul>	<ul style="list-style-type: none"> <li>Signing off</li> <li>Cheers,</li> <li>Love,</li> <li>Bye-bye!</li> <li>First name/other names</li> <li>From/Written by</li> </ul>
<b>Relevant pointers</b>	<b>Acceptable key information</b>	<b>Unacceptable responses</b>
when you saw Ben Loon do to help a neighbour	<ul style="list-style-type: none"> <li>he pushed the neighbour on a wheelchair to the nearby bus stop</li> </ul>	<ul style="list-style-type: none"> <li>he pushed the old lady</li> </ul>
when you saw it happen	<ul style="list-style-type: none"> <li>26 September 2021</li> </ul>	<ul style="list-style-type: none"> <li>26 Sept 2021</li> <li>26/9/2021</li> </ul>
good deeds Ben Loon does on other occasions	<ul style="list-style-type: none"> <li>helps younger students cross the road safely (after school)</li> </ul>	<ul style="list-style-type: none"> <li>helps younger student</li> </ul>
where these deeds take place	<ul style="list-style-type: none"> <li>at the busy road junction in front of the New City Community Club</li> </ul>	<ul style="list-style-type: none"> <li>at the community club</li> </ul>
what Ben Loon shows through these deeds	<ul style="list-style-type: none"> <li>care and concern for others</li> </ul>	<ul style="list-style-type: none"> <li>care and concern</li> </ul>

**Marking Scheme and Responses**

**Language and organisation (9 marks)**

- Accuracy of language: grammar, expression, spelling and punctuation
- Clarity of presentation: linking and sequencing of ideas and facts

Refer to band descriptors in sample answer key on page 5.

**A suggested response**

Dear Sir,

I am Irene, a resident of New City housing estate and I would like to ask you to consider someone for the Caring Neighbour Award. He is Tan Ben Loon.

On 26 September 2021, I saw Ben Loon help an old lady in a wheelchair get in front of my school. She pushed her to the wheelchair to the nearby bus stop. Besides that, Ben Loon performs good deeds at other times. He helps younger students cross the road safely after school. The children want to cross the busy road junction in front of the New City Community Club. Ben Loon goes out of his way on countless occasions to guide them safely across. Through these actions, Ben Loon shows care and concern for others.

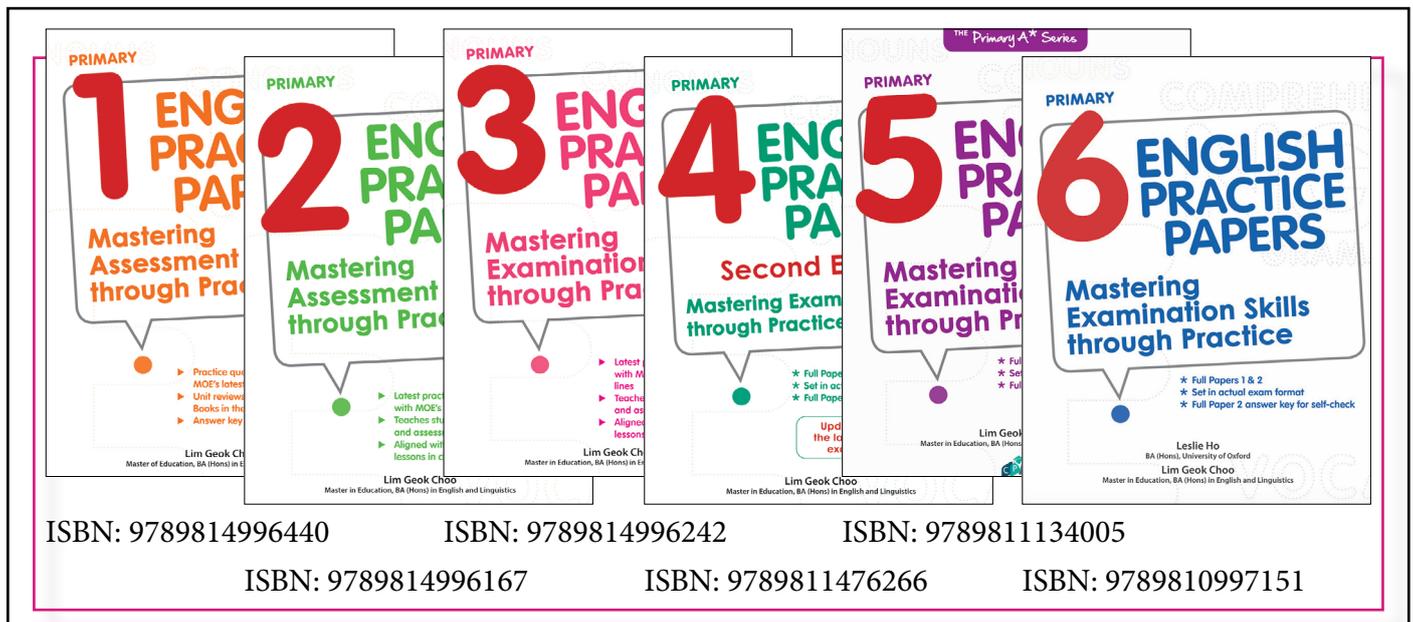
Ben Loon is a resident our community can be proud of. I hope you will consider him for the award. Thank you.

Yours faithfully,  
Irene Koh

70

# Mastering Assessment/Examination Skills

This series is a compilation of the latest practice questions in accordance with the latest syllabus issued by the Ministry of Education. With contributions from teacher consultants who have decades of experience, the examination practices in this series aim to be a one-stop and comprehensive guide for English learning. The questions are challenging and specifically hand-picked for their value in teaching students important concepts and examination techniques. Each book consists of 9 practice papers with full answers for Paper 2. These examination papers aim to teach students important concepts and help students discover weaknesses in their answering techniques which they may not be aware of.



## Practice and Exam Papers

Full practice papers for both Papers 1 and 2.

**Section A – Grammar MCQ (5 marks)**  
Choose the correct answer and write its number in the box.

- Lilian and her family \_\_\_\_\_ to the zoo last week.  
(1) go (2) went (3) gone
- Joshua and his sister \_\_\_\_\_ to the park yesterday.  
(1) is (2) are (3) were
- Sue says the dog \_\_\_\_\_ her mother had \_\_\_\_\_.  
(1) a (2) an (3) the
- Alli saw \_\_\_\_\_ some puppies yelping away.  
(1) its (2) his (3) her
- Irene wants to \_\_\_\_\_.  
(1) draw (2) draws (3) drawing

**Section C: Grammar Cloze (8 x 1 mark)**  
Passage 1  
Read the passage carefully. Choose the correct word from the words given in the box and write its letter (A to F) in each blank.  
USE EACH WORD ONCE ONLY.

(A) it (B) he (C) him  
(D) them (E) they (F) you

This river is a busy place. Like a market, (17) \_\_\_\_\_ is crowded and noisy. Boatmen sell fruit and vegetables. (18) \_\_\_\_\_ row their boats and sometimes ask (19) \_\_\_\_\_ to help them. (20) \_\_\_\_\_ have (21) \_\_\_\_\_ firmly so that soup does not spill.

**Section E – Word Order (4 marks)**  
Rearrange the words to form complete sentences with a capital letter. End it with a full stop.  
Example: my friend badminton  
Answer: I play badminton.

23 The boys down chasing \_\_\_\_\_.

24 year winter coldest is \_\_\_\_\_ the \_\_\_\_\_.

25 Lilian pen new lost \_\_\_\_\_ and was \_\_\_\_\_.

26 We hills distance can \_\_\_\_\_.

**Exam Paper Covers:**  
Examination 5: ENGLISH LANGUAGE PAPER 1 (WRITING)  
Examination 2: ENGLISH LANGUAGE PAPER 2

**Section F: Comprehension 1 (10 marks)**  
Read the passage carefully and answer the questions that follow.

The taxi stopped outside But Mother, Jo and I got out of the taxi. "Alright children, remember holidays and the mall is very crowded. recalling the time I got lost at the mall." "I'll get the drinks and the paper." "Tickets, please?" asked the conductor. Mother rummaged through her bag. Father joined us with drinks. "Do you have the tickets, dearest?" Dad looked at Mother curiously. "Mother told you to put them into your pocket!" A look of horror flashed across Mother's face. She had dropped them in the toilet just as we were about to get on. Instantly, Mother rushed off to the toilet. She returned with tickets in her hand. "Thank you, thank you, just in time for the show."

**Guided Writing (25 marks)**  
Write a composition of at least 100 words about helping someone.  
The pictures are provided to help you think about this topic.

Your composition should be based on one, two or all of these pictures.

Consider the following points when you plan your composition:

- What were the children doing?
- Why did the woman fall down?
- How did the children help the woman?

You may use the points in any order and include other relevant points as well.

**Helping words:** enjoying themselves, slipped accidentally, grocery bag, rushed to help, carried, accompanied her home.

**RELEVANT INSTRUCTIONS TO CANDIDATES**

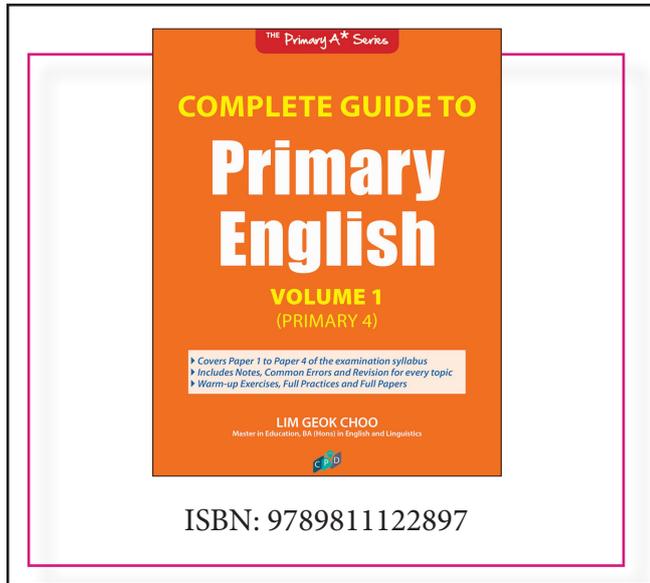
- Do not turn over this page until you are told to do so.
- Follow all instructions carefully.
- Answer all questions.
- Write all your answers in the brackets ( ) or spaces provided.

## Comprehensive Questions

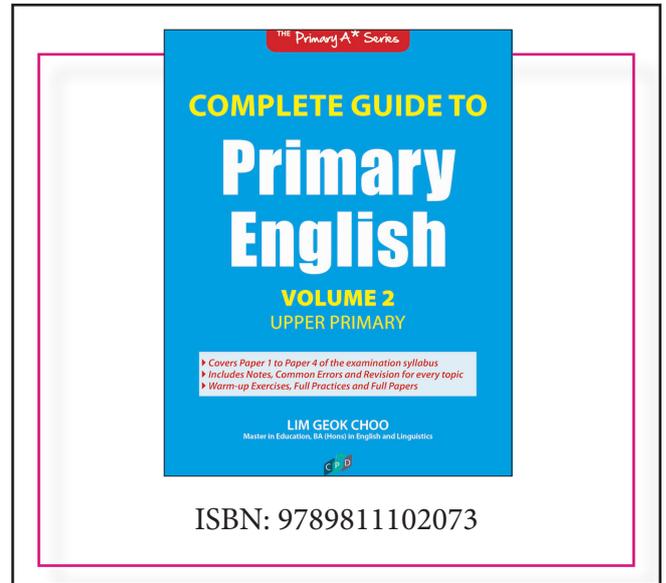
In line with MOE syllabus.

# Complete Guide to Primary English

Comprehensive revision guide and practice books that cover all components of Upper Primary education leading up to the PSLE. They cover Paper 1 to Paper 4 of the examination, and are suitable for use in class and self-revision at home.



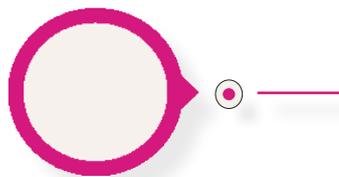
ISBN: 9789811122897



ISBN: 9789811102073

## Definitions

Definitions to help students understand what each exam component assesses and the skills required to do well in that component.



## Detailed Examples

Examples to show students exactly what each exam component looks like.

**Sequencing**  
Unit 11 Non-Basic Comprehension (Open-Ended)

**What is it?**  
It tests if you can follow the plot of events in a story. You are given 3 statements of events that have taken place and you are required to order them according to the flow of the story.

**Example**

My eyes gazed at parts of the room, admiring the party decorations. Balloons and streamers hung on the walls. A table was overflowing with gifts of different sizes and colourful wrappers. The huge spread of food made my stomach rumble instantly. There was a feast waiting for the party guests.

Frank's mother smiled and told me to help myself to the food. I gobbled up jelly, marshmallows and cookies.

Frank's father announced that we were going to watch a magic show. All the children sat down quietly to wait for it.

In a flash of light and smoke, Adrian the magician appeared out of nowhere. He whizzed past my shoulders and stopped. Poof! Out flew a white dove. Everyone including me clapped loudly.

Write 1, 2 and 3 on the blanks to indicate the order in which the events occurred in the story.

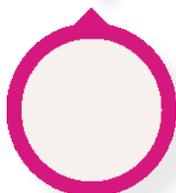
\_\_\_\_\_ The writer watched a magician perform a trick.  
\_\_\_\_\_ The writer ate a lot of food.  
\_\_\_\_\_ The writer saw many gifts.

**Take Note!**  
In the example, the writer went into a room. She saw many presents or gifts. Frank's mother told her to help herself to the food, so she ate jelly, marshmallows and cookies. Frank's father said a magic show was about to start and the writer watched a magician perform a trick.

191

## Key Notes

Notes of key skills and knowledge.



## Warm Ups

Short, skills-based practices as a warm up to the longer practices.

**Warm Up!**  
Unit 3 Section A - Grammar MCQ

Use the words in the brackets as gerunds to fill in the blanks.

**Gerund as subject of sentences**

1. \_\_\_\_\_ is my favourite sport. (swim)  
2. \_\_\_\_\_ in a choir is fun. (sing)

**Gerund as object of verbs**

3. Yin Mee suggested \_\_\_\_\_ for a swim. (go)  
4. Can you imagine \_\_\_\_\_ on water? (walk)

**Gerund used with expressions like 'it's no use' / 'have difficulty' / 'a waste of time' or 'money' / 'not worth' / 'fancy' / 'suggest' / 'imagine'**

5. It's no use \_\_\_\_\_ over spilled milk. (cry)  
6. We had no difficulty \_\_\_\_\_ our way home. (find)  
7. It's a waste of time \_\_\_\_\_ the pictures on the worksheets. (colour)  
8. It's not worth \_\_\_\_\_ money on low quality products. (spend)  
9. Do you fancy \_\_\_\_\_ in Bukit Timah? (bike)  
10. I suggested \_\_\_\_\_ in the park but no one liked my suggestion. (jog)  
11. Mother left her phone \_\_\_\_\_ and forgot to take it along with her to the market. (charge)  
12. The children miss \_\_\_\_\_ with their old toys very much. (play)

**Watch Out!**  
We can also use the infinitive interchangeably with the gerund sometimes (see page 39).

✓ It's a waste of time \_\_\_\_\_ the pages.  
✓ It's a waste of time \_\_\_\_\_ the pages.  
It is wrong to use the gerund and the infinitive interchangeably all the time.  
✓ Do you like to swim? Do you like \_\_\_\_\_?  
✓ Do they prefer \_\_\_\_\_ to swimming?

35

## Common Mistakes

'Watch Out!' components to show where students often lose marks because of common errors, including advice and examples to show how students can avoid these pitfalls.



0001/2 PSLE

ENGLISH LANGUAGE  
PAPER 2  
(BOOKLET A AND BOOKLET B)

Total time for Booklets A and B: 1 hour 50 minutes

Full Mock Examination

**RELEVANT INSTRUCTIONS TO CANDIDATES**

1. Do not turn over this page until you are told to do so.  
2. Follow all instructions carefully.  
3. Answer all questions.  
4. For Booklet A, write all your answers in the brackets ( ) provided.\*  
5. For Booklet B, write all your answers in the spaces provided.

\* In the actual PSLE, you will write your answers to Booklet A on the Optical Answer Sheet (OAS) provided.

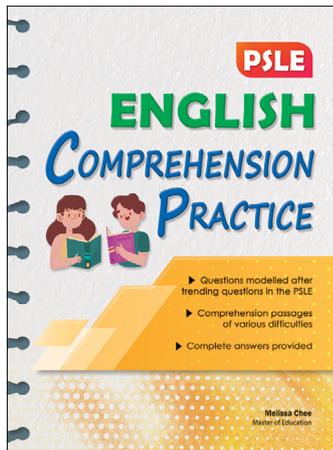
201

## Mock Exam

A full mock examination with answers to all the 4 Papers for a final test before the real examination.



## PSLE English

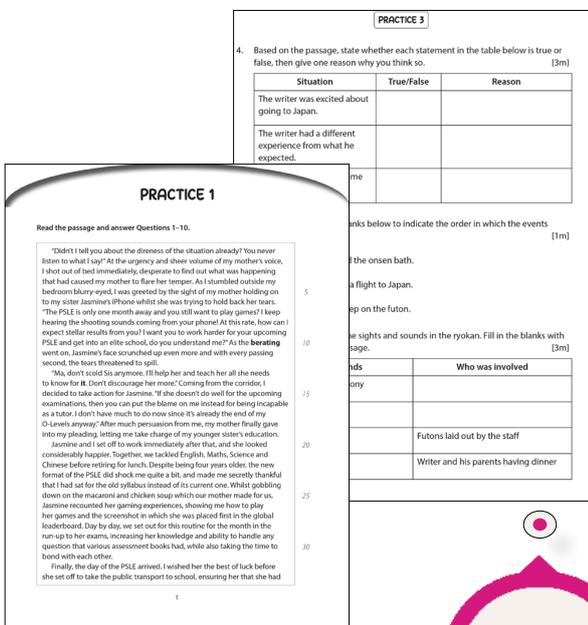


**Comprehension Practice**  
ISBN: 9789814996419

The PSLE English Comprehension Practice book is written based on the latest MOE syllabus for the open-ended comprehension passages for the PSLE. This book thus caters to students who are sitting for the most recent PSLE.

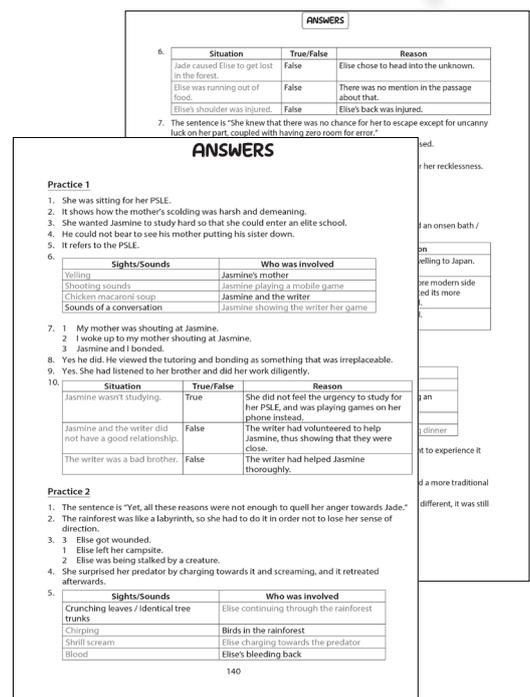
The questions in this assessment book are specially modelled after frequently-asked questions in the PSLE. In following the strict guides of the PSLE format, this would allow students to be more familiar with the examination, and thus have more confidence to tackle the open-ended comprehension passages.

This book aims to help students achieve success and score well in their PSLE.



### Answers Provided

Complete answers to all questions are provided.



### Comprehension Passages

This book has comprehension passages with various difficulties, in order to expose students to various types of comprehension questions.

# Master Your Paper 3 & Paper 4

**PRIMARY 5 ENGLISH**

**MASTER Your Paper 3 & Paper 4**  
(Listening Comprehension and Oral Communication)

- ▶ Comprehensive guide to listening comprehension and oral skills
- ▶ Complete listening scripts and answers, including suggested oral responses
- ▶ Five full mock exams for Paper 3 and Paper 4

LIM GEOK CHOO  
Master of Education, BA (Hons) in English and Linguistics

ISBN: 9789814996150

**PRIMARY 6 ENGLISH**

**MASTER Your Paper 3 & Paper 4**  
(Listening Comprehension and Oral Communication)

- ▶ Comprehensive guide to listening comprehension and oral skills
- ▶ Complete listening scripts and answers, including suggested oral responses
- ▶ Five full mock exams for Paper 3 and Paper 4

LIM GEOK CHOO  
Master of Education, BA (Hons) in English and Linguistics

ISBN: 9789814996648

This is a comprehensive guide to listening comprehension and oral communication tested in Paper 3 and Paper 4 of the English examination.

It is closely aligned with the latest assessment objectives for primary level issued by the Ministry of Education, Singapore and includes online audio files of all texts of the listening scripts.

**Unit 2**  
**Multiple-Choice Questions**

**What is it?**  
It is a test of your ability to listen to a longer stretch of spoken text. There are 13 questions.

**Take Note!**  
The options are not pictorial but in words. Instead of studying pictures, you have to read and understand the options. Then you can eliminate two of them to get the correct answer.

**Spoken texts include:**

- ▶ Interviews/speeches
- ▶ Extracts from news reports
- ▶ Narratives/look tables
- ▶ Documentaries

**Watch Out!**  
For example, the speaker could name a place like Best Primary School but one of the options could be Best Minds Primary School. This option is wrong because the name of the school is slightly different from what the speaker said. Accuracy is key!

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Primary 5 English - Master Your Paper 3 & Paper 4 (Listening Comprehension and Oral Communication)

**Try This!**

**Text for Multiple-Choice Questions**

A man and his son were on their way to a market one morning. They walked alongside their donkey for a while. When they passed by a temple, they heard some people laughing at them. "What fools they are, walking alongside their donkey when they could be riding on it!"

The man thought they were right, so he put his obedient son on the donkey and continued their journey. As they passed by a village, an elderly man shouted at the boy. "Get down, boy! How can you ride on the donkey when your old father has to trudge along?"

1. Where were the man and his son going?  
(1) to a temple ( )  
(2) to a village ( )  
(3) to a market ( )
2. What did the elderly man think of the boy riding on the donkey?  
(1) The boy was foolish. ( )  
(2) The boy was obedient. ( )  
(3) The boy was inconsiderate. ( )

Answers  
1. (3)  
2. (1)

## Take Note!

Notes on important skills and knowledge.

## Watch Out!

Common mistakes in reading and answering questions.

## Try This!

Warm-up exercises for immediate application of skills learnt.

## Mock Exam Papers

There are five full Mock Paper 3 and Paper 4 exam papers with complete listening scripts and answers, including suggested oral responses.

**MOCK EXAM 4**

Paper 3 (20 marks)

Text 1 (Track 4.1)

1. Which picture shows the correct items on the noticeboard for this term?

**MOCK EXAM 1**

Paper 3 (20 marks)

Text 1 (Track 1.1)

1. Which picture shows the correct items the student leader should collect?

Listening Texts and Answers

From then on, Jack always looked for Tommy during recess. Sometimes he brought snacks for Tommy. Other times, he would look about to him the strange things that Tommy did not stand up or walk up and down when Jack was reading. He sat down uselessly enjoying the book. Every afternoon, after dismissal, Tommy and Jack left together and once before, Jack answered.

**Text 2**

There'll be an announcement during assembly.

Good morning, students. Today is an important day. The media team will be here soon. You are reminded to be on your best behaviour. Do not gather in large numbers, talk loudly or swarm the media team when it arrives. The news will be taking video of you during lessons and at recess too. Try to be natural and please do not cover your face when the cameramen are nearby.

Because our education system is considered effective and impressive, the video will be shared with schools in countries such as Japan and Brazil. School principals in those countries are keen to see how we teach our English lessons as they hope that teachers will be able to improve the standard of English of their own students. They strongly use our books as well, so they will need to observe how our teachers teach in their own schools.

Remember to look in your mirror and be presentable. Make a good impression and do not forget our school reputation.

**Answers to Paper 3**

1. 2 2 3 3 3 4 2 5 1  
6 2 7 1 8 2 9 1 10 2  
11 1 12 2 13 2 14 3 15 2  
16 1 17 1 18 1 19 3 20 2

**Paper 4 - Answers to pronunciation, word stress, intonation and expression for Reading A1 and suggested responses for prompts**

**Reading A1 (a)**

**Pronunciation**

1. work, back, mark, look - say the ending k sound
2. that, right, hat, next, best, went, feet, about - say the ending t sound
3. did, moved, dragged, did - say the d sound

4. that, they - say the th sound  
5. which - say the connected form of wh and ch  
6. which - say the connected form of wh and ch

**Word stress**

1. overuse - put the stress on the third syllable over-USE
2. completion - put the stress on the second syllable com-PLETION
3. unavailability - put the stress on the second syllable un-avail-ABILITY

**Intonation and expression**

1. Oh, no! - use a falling tone to express surprise
2. Mary! Look which hair! - use a rising tone to express surprise

**Content**

16) Yes, I have these tablets because I need them for personal grooming and cleaning. I need the toothbrush and toothpaste for cleaning my teeth every morning after I wake up. If I don't brush my teeth, my friends will say I have bad breath and avoid me like the plague. I also use the comb to make my hair neat and tidy. If not, it will look very messy in the morning when I just wake up after sleeping the night before.

Oh!

Yes, I have these tablets because they are used for cleaning and chewing. I need my toothbrush & floss - in the morning after I wake up and at night before I go to bed. This helps to prevent tooth decay. Also combs my hair with the hairbrush so my hair gets entangled easily. Without the hairbrush, it is difficult to be my hair into a neat ponytail.

18) It is important to be neat and tidy when going to meet other people. We should not have the house looking messy and untidy because we meet other people. We should know the house looking messy and untidy as we did not bother to clean usually or comb our hair. People may not like us if we are disneat and untidy. People may think we are abnormal if we look dirty or messy. They will probably avoid meeting with us, thinking that we are unhygienic.

OH

## Ace Your Show-and-Tell

### Ace Your Show-and-Tell

DEVELOPING ORAL COMPETENCE FOR EXTRAORDINARY PRESENTATIONS

PRIMARY 1 & 2

- Promotes metacognition and critical thinking skills
- Enriches students' vocabulary to help them express themselves clearly
- Builds confidence for effective communication

Karen Tan  
BA, (NUS)

ISBN: 9789811493119

Most primary schools in Singapore that do not conduct examinations for Primary 1 students have instead implemented show-and-tell presentations or written expressions as formative assessments. This is in line with MOE's Primary Education Review and Implementation (PERI) recommendations to support learning through holistic assessment.

Show-and-tell is a form of public speaking. There are several benefits to performing show-and-tell, such as developing effective communication skills, honing emotional skills and nurturing listening skills. Children would also have to make eye contact and articulate with poise while talking to the class. This builds their self-confidence and self-esteem.

**Tips for Parents**

**How to help your child prepare for show and tell?**

Preparing for show and tell is a wonderful activity for parents and children to bond over. It is a good chance to have conversations that you would not usually have. As a parent, you can not only help provide ideas for content, but also provide support as your child builds up his or her confidence in public speaking. You can also provide constructive feedback that will help them improve on their vocal skills.

Here are some tips to take note of:

- 1. Be encouraging.** If your child is shy, he or she may be scared and lacking in self-confidence. Help them build their confidence by praising areas in which he or she is good at. Also, be enthusiastic about the activity and remind them that it is a good opportunity to share something meaningful to their classmates and teacher.
- 2. Get handy.** Usually, presenting something during show and tell sessions will be required. If it is a family photograph or a photograph of the object or event, help your child to engage the photograph and perhaps even laminate it so that he or she will be proud to hold on to it during his or her presentation.
- 3. Ask questions.** As parents who want to help their children, it may be tempting to provide them with the answer. However, remember that the learning process is just as important to their learning as the presentation itself. There is no right or wrong in show and tell. Your child will be proud and confident if he or she is sharing something they truly want to convey. If your child asks you a question, try saying "let's find out the answer together!" rather than immediately handing him or her the answer. For example, look up a book or search the internet. Let your child discover the topic independently!
- 4. Try drawing mindmaps.** This is helpful for children who are visual learners. Start off with a few points, then encourage them to further elaborate on points that he or she is more interested in, or whichever that fits the topic better.
- 5. Be his or her first audience.** If your child can practice in front of an audience whom they are comfortable with, it will be extremely helpful in boosting their confidence. Ask your child some questions so that they will be better prepared to answer the questions their classmates may ask them. You may also wish to record his or her performance and show it to them after! This will improve their presentation skills.
- 6. Demonstrate.** Provide ideas on how to use appropriate hand gestures to further enhance their performance.
- 7. Focus on the process.** Remember that it is not so much the outcome that you and your child should focus on. Remind your child how they have improved with each show and tell practice session, so that they will be motivated to continue improving with each try!

**Introduction**

**Checklist**

- Did you ensure that the main ideas and points are easy for the audience to understand?
- Did you speak clearly, confidently and expressively?
- Did you speak at an appropriate pace?
- Did you maintain eye contact with the audience?
- Did you use suitable and natural hand gestures to emphasise your points?
- Did you engage your audience during the presentation?

**Rubrics**

	Beginners	Intermediate	Advanced
<b>Content</b>	Points are not well developed and elaborated. No examples are used, or examples used are not relevant.	Some points are developed and elaborated. Some examples are used but not all of them are relevant.	Points are all well-developed and well-elaborated. Examples are used and all of them are relevant.
	Points do not address the given topic at all. Student shows no knowledge of the topic.	Points address topic adequately but not fully. Student shows sufficient knowledge of the topic.	Points address the topic fully. Student shows in-depth knowledge of the topic.
	Points and examples are not particularly innovative or interesting.	Points and examples are fresh and insightful.	

## Tips

Tips and rubrics are included to help parents better prepare their child for show-and-tell.

## Variety of Topics

More than 100 interesting topics that develop analytical and critical thinking skills.

**CONTENTS**

Introduction

**Section A: Family and Friends**

A1 Why I love my mum and dad  
A2 Funny things my parents say  
A3 My imaginary friend  
A4 What my sibling thinks of me  
A5 About my family  
A6 My family's traditions  
A7 A family vacation  
A8 My grandparents  
A9 My best friend  
A10 What do you do on weekends?

**Section B: Miscellaneous**

B1 Something you made yourself  
B2 Tell a joke  
B3 Something small  
B4 My dream vacation  
B5 My invention  
B6 Why I am on Santa Claus' nice list  
B7 My birthday wish  
B8 An event that made me sad  
B9 If I had three wishes, they would be ...  
B10 If I were the author of a book, I would write about ...  
B11 The best thing about me is ...  
B12 What I want to be when I grow up  
B13 What to do when there is no television  
B14 Situations that scare me  
B15 A person I want to meet  
B16 A birthday party I attended  
B17 Who do I look up to most?  
B18 Convince your classmates to recycle plastic  
B19 Convince your classmates to conserve water  
B20 Convince your classmates to lead a healthy lifestyle

**At the hawker centre**

Hawker food is something all Singaporeans love to dine on. Describe what you see, smell, feel, taste when you visit hawker centres!

<b>What you see</b>	Example: many people at the hawker centre Example: plates of food on every table
<b>What you smell</b>	Example: smoke coming from the hawker Example: aroma of fried noodles
<b>How you feel</b>	Example: hungry while waiting for the food Example: satisfied after eating
<b>What you taste</b>	Example: sweet desserts Example: savoury carrot cake

- Which hawker centre do you often visit?
- Is there a favourite hawker stall that you always visit?
- What is your favourite hawker food?

**Places**

Fill in the blanks provided to talk about your hawker centre experience.

Good morning/afternoon/evening \_\_\_\_\_  
(name of teacher) and fellow classmates. My name is \_\_\_\_\_

Today, I am going to share about my hawker centre experience. I often visit \_\_\_\_\_ as it is \_\_\_\_\_ and \_\_\_\_\_.

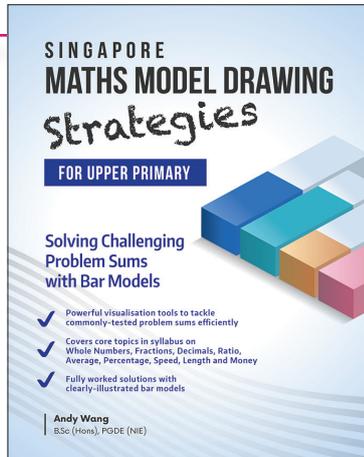
The hawker centre has a large variety of food, but my favourite dishes are \_\_\_\_\_ and \_\_\_\_\_.

These dishes are prepared so well that I just cannot resist their \_\_\_\_\_ and \_\_\_\_\_.

I hope everyone here has a chance to visit my favourite hawker centre, because it is an experience that you will never forget. This is the end of my presentation. Thank you for your attention!



# Maths Model Drawing Strategies



ISBN: 9789811490125

The questions in this book are designed to enable progressive learning. Step-by-step solutions are provided to ensure students master the skill of model drawing in various core topics of the primary school mathematics syllabus such as whole numbers, fractions, decimals, ratio, average, percentage, speed, length, money, mass and volume.

Contents	
BASIC COMPARISON MODEL CONCEPT	1
BASIC UNITS MODEL CONCEPT	10
BASIC EQUALISATION MODEL CONCEPT	16
BASIC TRANSFER MODEL CONCEPT	21
REMAINDER MODEL CONCEPT	42
CONSTANT TOTAL MODEL CONCEPT	56
CONSTANT DIFFERENCE MODEL CONCEPT	67
CONSTANT QUANTITY MODEL CONCEPT	77
ANSWER KEY	84

## Various Model Drawing Concepts

Students will acquire basic to advanced model drawing concepts upon completion of this book.



## Clear Examples

Each concept is explained with straightforward step-by-step examples.



### BASIC COMPARISON MODEL CONCEPT

The basic comparison model concept helps to illustrate the difference between two more parties. Keywords such as "less than" or "more than" will usually require the use of the comparison model concept.

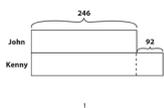
#### Example 1

John has 246 chocolates while Kenny has 92 more chocolates than John. How many chocolates does Kenny have?

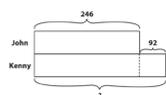
**Step 1:** Since we know the number of chocolates that John has, we can draw a bar and label it first.



**Step 2:** To complete a model, we need to draw another bar to represent the number of chocolates that Kenny has.



**Step 3:** We can therefore calculate the number of chocolates that Kenny has.



Number of chocolates that Kenny has  $\rightarrow 246 + 92 = 338$   
Kenny has 338 chocolates.

#### Example 2

Crystal and Stephanie have a total of 65 sweets. Given that Stephanie has 15 more sweets than Crystal, how many sweets does Stephanie have?

**Step 1:** We know the total number of sweets that the two girls have. We also know that Stephanie has more sweets. So, we draw two bars and label it.



**Step 2:** Next, since we know that Stephanie has 15 more sweets than Crystal, we label that in our model as well.



## Exercises with Answers

Answers with models and full working steps are provided for each exercise question.



Singapore Maths Model Drawing Strategies for Upper Primary

**Exercise 1**

(a) Peter scored 891 points in a game. Matthew scored 247 points less than Peter. How many points did Matthew score?

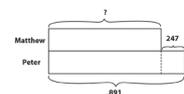
(b) Beatrice received \$40 from her parents. Her brother received \$2 did while her sister received  $\frac{1}{3}$  of what her brother received. How much money did her sister receive?

### ANSWER KEY

#### BASIC COMPARISON MODEL CONCEPT

##### Exercise 1

(a)



Number of points that Matthew scored  $\rightarrow 891 - 247 = 644$   
Matthew scored 644 points.

## Master Math Models

The Master Math Models series was written based on methods developed and refined from two decades of teaching thousands of students with successful results. These results can be replicated by learning the techniques in this series.

The objective of the series is to empower: (a) parents and teachers with an easy-to-use tool for teaching, and (b) students to become independent learners.

This series is the first of its kind that is written in a style with clear step-by-step diagrams, instructions and explanations that allow independent learning. Parents and tutors will find this series self-explanatory and useful in guiding students. Much effort has been made to provide examples for easy reference, as they only need to point out the clear and concise explanations on each page.

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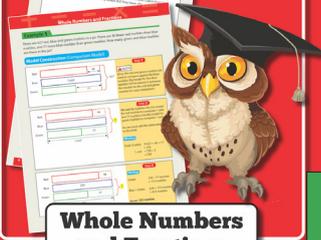
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Book 1



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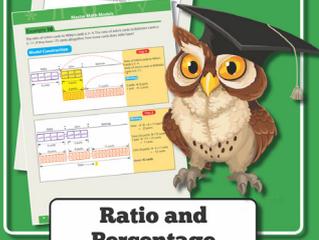
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Primary 5 & 6

Book 2



**Ratio and Percentage**

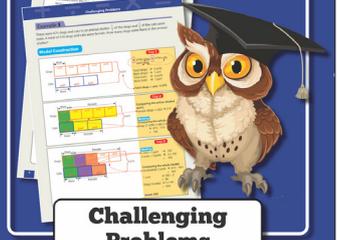
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Primary 5 & 6



**The Solutions Book**

Benjamin Low  
B.Ars (INDS), PGDE (INE, NTU)

**The Solutions Book**  
ISBN: 9789811446214

**Book 1 Whole Numbers and Fractions**

**Example 1**

There are 627 red, blue and green marbles in a jar. There are 46 fewer red marbles than blue marbles, and 77 more blue marbles than green marbles. How many green and blue marbles are there in the jar?

**Model Construction (Comparison Model)**

**Step 1**

Red:  $\overline{\hspace{1cm}}$  46  
Blue:  $\overline{\hspace{1cm}}$  1 unit  
Green:  $\overline{\hspace{1cm}}$  77

**NOTE** Since the red and green marbles are used to compare against the blue marbles, the model for the blue marbles will be placed in between the models for the red and green marbles for easy comparison.

**Step 2**

Red:  $\overline{\hspace{1cm}}$  46  
Blue:  $\overline{\hspace{1cm}}$  1 unit  
Green:  $\overline{\hspace{1cm}}$  77

We add 46 marbles into the model for red marbles to complete 1 unit, and 77 marbles into the model for green marbles to complete 1 unit. So, we must add the same amount to the total.

**Worked**

Total 13 units  $\Rightarrow 627 + 46 + 77$   
 $\Rightarrow 750$   
1 unit  $\Rightarrow 750 \div 13$   
 $\Rightarrow 58$

**Step 3**

Red:  $\overline{\hspace{1cm}}$  104  
Blue:  $\overline{\hspace{1cm}}$  250  
Green:  $\overline{\hspace{1cm}}$  77

**Worked**

Green:  $250 - 77$  marbles  
 $= 173$  marbles  
Blue + Green:  $250 + 173$  marbles  
 $= 423$  marbles  
**Answer:** 423 marbles

**Book 1 Whole Numbers and Fractions**

**Example 2**

Tristan has \$78 more than Stephen. James has \$40 more than Tristan and Stephen's total sum of money. James has \$350 more than Tristan. How much do they have altogether?

**Model Construction (Rearrangement Model I)**

**Step 1**

Stephen:  $\overline{\hspace{1cm}}$  1 unit  
Tristan:  $\overline{\hspace{1cm}}$  1 unit  
James:  $\overline{\hspace{1cm}}$  1 unit

Tristan has \$78 more than Stephen.  
James has \$40 more than Tristan and Stephen's total sum...

**Step 2**

Stephen:  $\overline{\hspace{1cm}}$  1 unit  
Tristan:  $\overline{\hspace{1cm}}$  1 unit  
James:  $\overline{\hspace{1cm}}$  1 unit

James has \$350 more than Tristan.  
We rearranged James' model for ease of comparison.

**Worked**

1 unit  $\Rightarrow \$350 - \$40$   
 $= \$310$

**Step 3**

Stephen:  $\overline{\hspace{1cm}}$  \$310  
Tristan:  $\overline{\hspace{1cm}}$  \$310  
James:  $\overline{\hspace{1cm}}$  \$310

Tristan  $\Rightarrow \$310 + \$78 = \$388$   
James  $\Rightarrow \$310 + \$388 = \$718$   
Total  $\Rightarrow \$310 + \$388 + \$718$   
 $= \$1416$   
**Answer:** \$1416

## Guided Examples

Colourful step-by-step examples are provided so that students can clearly understand the fundamentals behind each working or step.

## Mastering Mathematics

Mastering Mathematics was conceptualised and developed to provide students in primary schools with an organised approach to revising Primary Mathematics through comprehensive practices ranging in difficulty from basic to challenging. All topics in the Primary Mathematics syllabus issued by the Ministry of Education, Singapore, are covered. Examples are given in the form of worked questions in the exercises to give students a clear reference on how each type of question should be answered. An answer key is also given at the end of the book for students to assess their own answers so that they can learn from their mistakes. Parents and teachers can make use of this as well.

To maximise the book's benefits, students should first complete the exercises in Section A to strengthen their basic skills, concepts and processes before attempting the questions in Section B.

This book has been written for students to use in the classroom with teacher supervision; and/or at home, for independent learning or with parental guidance.

Primary 1  
**Mastering Mathematics**  
Comprehensive Revision Exercises

Primary 2  
**Mastering Mathematics**  
Comprehensive Revision Exercises

Primary 3  
**Mastering Mathematics**  
Comprehensive Revision Exercises

Primary 4  
**Mastering Mathematics**  
Comprehensive Revision Exercises

Primary 5  
**MATHEMATICS**  
REVISION EXERCISES

Primary 6  
**Mastering Mathematics**  
Comprehensive Revision Exercises

ISBN: 9789810997144

ISBN: 9789810997137

ISBN: 9789810997120

ISBN: 9789810977672

ISBN: 9789811138027

ISBN: 9789810977696

**Unit 1**  
**Numbers to 100**

**Learning objectives**

At the end of this topic, pupils should be able to do the following:

- Count and tell the number of objects in a given set.
- Read and write numbers in numerals and in words.
- Compare the numbers of objects in 2 or more sets.
- Compare and order numbers up to 100.
- Recognise ordinal numbers.
- Recognise number patterns.
- Recognise number bonds for numbers up to 10.

**Section A**

**Exercise 1a**

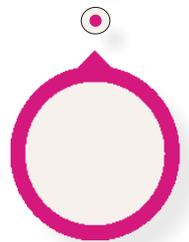
Write each of the following statements in numbers. The first question has been done for you.

1. Eight Answer: 8

2. Eleven Answer: \_\_\_\_\_

## Learning Objectives

Learning objectives are clearly spelt out at the beginning of each topic, so students know what is expected of each topic in the curriculum.



## Exercises

Comprehensive exercises for each learning objective of each topic.



**Exercise 2a**

Unit 3 Multiplication and Division

Divide the following numbers. The first question has been done for you.

1.  $35 \div 5$   
 $7 \times 5 = 35$   
Answer: 7

2.  $36 \div 6$   
Answer: \_\_\_\_\_

3.  $40 \div 8$   
Answer: \_\_\_\_\_

4.  $42 \div 7$   
Answer: \_\_\_\_\_

5.  $45 \div 9$   
Answer: \_\_\_\_\_

6.  $48 \div 6$   
Answer: \_\_\_\_\_

7.  $50 \div 10$   
Answer: \_\_\_\_\_

8.  $54 \div 9$   
Answer: \_\_\_\_\_

9.  $56 \div 8$   
Answer: \_\_\_\_\_

10.  $60 \div 6$   
Answer: \_\_\_\_\_

11.  $63 \div 7$   
Answer: \_\_\_\_\_

12.  $72 \div 8$   
Answer: \_\_\_\_\_

3. Cain is 1 m 38 cm tall. Don is 4 cm taller than Cain. What is the total height of the two men?

Answer: \_\_\_\_\_ m

**Exercise 2b**

Unit 3 Area of Triangle

11. Alex wants to tile the triangular floor shown. How much does he have to pay if 1 m<sup>2</sup> of tiling costs \$51.50?

Answer: \$ \_\_\_\_\_

12. In the figure, ABCD is a square of side 15 cm. The length of AB is three times the length of BE. Find the area of the shaded triangle.

Answer: \_\_\_\_\_ cm<sup>2</sup>

13. The base of a triangle is 21 cm and its height is  $\frac{2}{3}$  of its base. Find the area of the triangle.

Answer: \_\_\_\_\_ cm<sup>2</sup>

4. Gao Ming has a piece of wire that is 90 cm long. He uses the wire to make a square as shown below.

(a) What is the length of wire used to make the square?  
(b) What is the length of wire left after making the square?

(a) Length of wire used is \_\_\_\_\_  
(b) Length of wire left is \_\_\_\_\_

5. Hazel stacked some paper weights on a box as shown. What is the height of the box?

The height of the box is \_\_\_\_\_

**Exercise 2c**

Mastering Mathematics Primary 2

Write your answers to each of the following questions in the space provided. For each question, write the number statements and show your working clearly in the space below it. The first question has been done for you.

1. A tailor has a piece of cloth 95 cm long. He cuts it into 3 pieces. The first piece is 25 cm long. The second piece is 15 cm longer than the first piece.  
(a) What is the length of the second piece?  
(b) What is the length of the last piece?

(a) Length of second piece —  $25 \text{ cm} + 15 \text{ cm} = 40 \text{ cm}$   
(b) Length of last piece —  $95 \text{ cm} - 25 \text{ cm} - 40 \text{ cm} = 30 \text{ cm}$

2. Estelle has 3 strings. The total length of Strings A and B is 98 cm. The total length of Strings B and C is 72 cm. String C is 39 cm long. What is the length of String A?

The length of String A is \_\_\_\_\_

3. Fabian walks from his house to his school every morning. He has to walk past the park and the community centre. How far does he walk from his house to his school every morning?

He has to walk \_\_\_\_\_ m every morning.

## Hints

Hints for selected questions are provided to scaffold the students' mathematical thought processes.



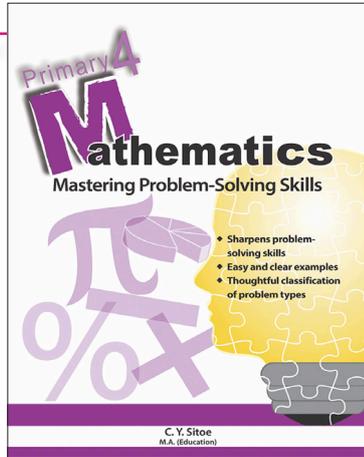
## Progressive Difficulty

Questions arranged in an organised progression, from simple to difficult. Challenging questions stretch students' ability in problem-solving.





# Mastering Problem-Solving Skills



ISBN: 9789811419218

This book aims to stimulate young minds and sharpen problem-solving skills using different approaches.

Thoughtful classifications to help your child recognise commonalities among some seemingly different problem sums.

Chapter 1  
**As Many As, More Than, Less Than**

**Example**

At a funfair, three students shared a total of 355 tokens. Benny used three as many tokens as Ahmad while Kane used 40 more tokens than Ahmad. How many tokens did Kane use?

**Working**

B					} 355
A					
K				+40	

Su + 40 → 355  
 Su → 355 - 40 = 315  
 Tu → 315 ÷ 5 = 63  
 Kane → 63 + 40 = 103

**Ans:** Kane used 103 tokens

## Examples

Easy and clear guides that walk your child through the process to solve the different types of heuristic problem sums that they will face.

## Practice and Revision

Comprehensive coverage for all topics.

Primary 4 Mathematics: Mastering Problem-Solving Skills

**Practice**

- Andy, Billy and Calvin shared 120 stickers among themselves. Andy received 12 more stickers than Billy. Calvin received 4 times as many stickers as Billy.
  - How many stickers did Calvin receive?
  - How many more stickers did Calvin receive than Billy?

**Revision 2**

- At a bookshop, exercise books are sold in sets of 9. Each set costs \$3. Alicia has \$16.40. What is the maximum number of exercise books she can buy?
- This year, Mrs Lim's age is between 40 and 50 years old. Her age is a multiple of 8. Next year, her age will be a multiple of 7. How old is she now?

**Answer Key**

Chapter 1

- |        |  |  |  |    |       |
|--------|--|--|--|----|-------|
| Calvin |  |  |  |    | } 120 |
| Billy  |  |  |  |    |       |
| Andy   |  |  |  | 12 |       |

120 - 12 = 108  
 6 units → 108  
 1 unit → 108 ÷ 6 = 18  
 4 units → 18 × 4 = 72

(a) Calvin received 72 stickers  
 3 units → 18 × 3 = 54

(b) Calvin received 54 more stickers than Billy.
- |       |  |  |  |    |       |
|-------|--|--|--|----|-------|
| Billy |  |  |  |    | } 115 |
| Anita |  |  |  |    |       |
| Sally |  |  |  | 25 |       |

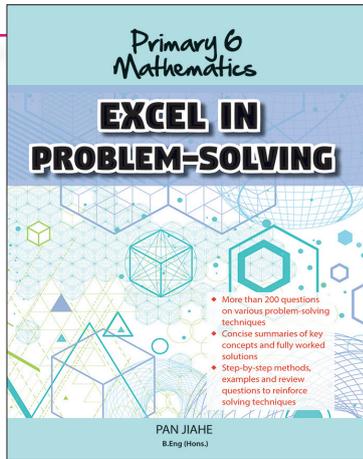
115 + 25 = 140  
 7 units → 140  
 1 unit → 140 ÷ 7 = 20  
 3 units → 20 × 3 = 60  
 60 - 25 = 35

Billy has 35 stamps.

## Answer Key

Detailed answers are provided for students to do self-marking and ensure their workings contain the right steps.

## Excel in Problem-Solving



ISBN: 9789811440571

This book is a culmination of a decade of experience in teaching hundreds of students, and is written with one goal in mind - to teach and impart the key problem-solving techniques in tackling common to challenging problem sums to students, so that they can excel in their PSLE Mathematics examination, and find joy in the process of learning mathematics.

This book aims to achieve this by teaching students the key problem-solving techniques tested in PSLE Math in a structured and concise manner.

**Chapter 2: Number  $\times$  Value = Total**

**Introduction**  
This method is the most effective in solving questions where the number of the variables, the value of each variable and the total value are known. Hence, this technique is known as **Number  $\times$  Value = Total**.

**Main Concepts**  
This technique involves constructing a simple table to allow us to solve easily.  
Example: The fruit seller sold apples and oranges in the ratio of 2 : 3. Each apple costs 40 cents, while each orange costs 50 cents.

Step 1 Construct a simple table as follows:

	Number	$\times$	Value (cents)	Total (cents)
Apples		$\times$		
Oranges		$\times$		

Step 2 Fill in the "Number" and "Value" columns.

	Number	$\times$	Value (cents)	Total (cents)
Apples	2 units	$\times$	40	
Oranges	3 units	$\times$	50	

Step 3 Multiply the "Number" and "Value" to get the "Total" (Number  $\times$  Value = Total).

	Number	$\times$	Value (cents)	Total (cents)
Apples	2 units	$\times$	40	80 units
Oranges	3 units	$\times$	50	150 units

Step 4 Use the table to solve the questions

19



### Introduction

Main concepts are introduced at the beginning of every chapter.



### Guide

Step-by-step examples to coach students, which also serve as a revision guide.

Primary 6 Mathematics: Excel in Problem Solving

**Number  $\times$  Value**

**Example 1**  
Lynn started to save her pocket money in her piggy bank. After one year, the number of 10-cent, 20-cent and 50-cent coins in her piggy bank was in ratio of 2 : 5 : 3. If she had saved 563 altogether, what was the total number of 20-cent coins in the piggy bank?

**Steps**  
1. Fill in the table (Ensure all are in the same units - cents).  
2. Number  $\times$  Value = Total  
3. Solve.

	Number	$\times$	Value (cents)	Total (cents)
10 cents	2 units	$\times$	10	20 units
20 cents	5 units	$\times$	20	100 units
50	3 units	$\times$	150	300 units

Total value  $\rightarrow$  20 units + 100 units + 300 units = 420 units  
563 = 63  $\times$  100 = 6300 cents  
420 units = 6300  
1 unit = 6300  $\div$  420 = 15  
No. of 20-cent coins  $\rightarrow$  5 units = 5  $\times$  15 = 75  
There were 75 20-cent coins in the piggy bank.

20

### Exercises

Review and revision exercises for students to further reinforce their understanding.



### Final Revision

Solve the following questions.

- In the figure below, the area of the shaded part of the circle is 35% of the area of the circle. The area of the shaded part of the triangle is  $\frac{1}{3}$  the area of the triangle. What fraction of the figure is shaded?

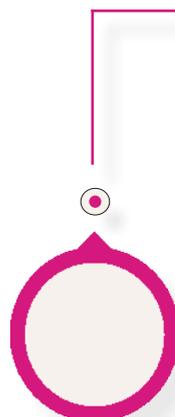


- A computer shop had 104 laptops and printers. After he sold  $\frac{3}{8}$  of the laptops, and  $\frac{1}{4}$  of the printers, he had the same number of laptops and printers left. If the selling price of each laptop and each printer were \$850 and \$215 respectively, how much did he collect from the sale of the laptops and printers?

143

### Solutions

Detailed worked solutions for students to learn at their own pace.



### Worked Solutions

#### Chapter 1

- Money  $\rightarrow$  Uncle Ng  $\rightarrow$  Grandchild  $\rightarrow$  Left

Uncle Ng  $\rightarrow$   $\frac{1}{2}$   
Grandchildren  $\rightarrow$   $\frac{1}{3}$   
Left  $\rightarrow$   $\frac{1}{6}$   
2 units = \$560  $\times$  3 = \$1680  
1 unit = \$560  $\div$  2 = \$280  
5 units = \$280  $\times$  5 = \$1400

2. Neighbours  $\rightarrow$  Colleagues  $\rightarrow$  Left

Neighbours  $\rightarrow$   $\frac{1}{3}$   
Colleagues  $\rightarrow$   $\frac{1}{4}$   
Left  $\rightarrow$   $\frac{1}{12}$   
7 units = 21  
1 unit = 21  $\div$  7 = 3  
40 units = 3  $\times$  40 = 120 cupcakes

3. Class  $\rightarrow$  Glasses  $\rightarrow$  Boys  $\rightarrow$  Girls

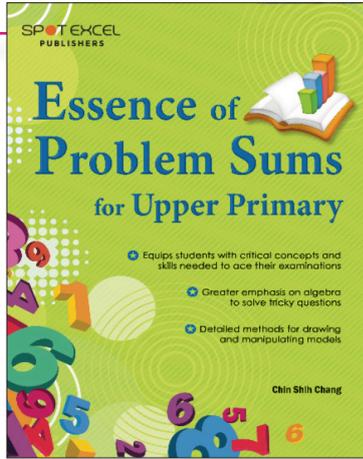
Class  $\rightarrow$   $\frac{1}{2}$  Glasses  $\rightarrow$   $\frac{1}{3}$  Boys  $\rightarrow$   $\frac{1}{6}$  Girls  
 $\frac{1}{2}$  No glasses  $\rightarrow$   $\frac{1}{3}$  Boys  $\rightarrow$   $\frac{1}{6}$  Girls  
Glasses (girls)  $\rightarrow$   $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$   
Glasses (boys)  $\rightarrow$   $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$   
No glasses (boys)  $\rightarrow$   $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$   
No glasses (girls)  $\rightarrow$   $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$

4. Flour  $\rightarrow$  Mon  $\rightarrow$  Tue

Flour  $\rightarrow$   $\frac{1}{2}$  Mon  $\rightarrow$   $\frac{1}{4}$  Tue  
Mon  $\rightarrow$   $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$   
Tue  $\rightarrow$   $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$   
Left  $\rightarrow$   $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$   
63 units = 40 units + 23 units  
23 units = 165  
1 unit = 165  $\div$  23 = 7  
63 units = 7  $\times$  63 = 441 g

155

## Essence of Problem Sums



ISBN: 9789811485879

- Equips students with critical concepts and skills needed to ace their exams
- Greater emphasis on algebra as a method to solve tricky questions
- Detailed methods for drawing and manipulating models

Essence of Problem Sums for Upper Primary focuses on strategies for solving problem sums. This book consists of 10 chapters and each chapter includes the most common types of questions seen in school preliminary exams and the PSLE.

At the start of each chapter, students are taught the methods to solve the problem sums. Questions are then set to test the students' understanding. These questions are set in such a way that they are similar to PSLE and top schools' prelims.

This book is a good guide for students who are struggling with problem sums.

### Detailed Examples

Step-by-step solutions with detailed model drawing and explanation are provided for example questions.

**Example 2**

If Ali gives Tom \$20, Tom will have  $\frac{5}{8}$  as much money as Ali. If Tom gives Ali \$25, Tom will have  $\frac{2}{3}$  as much money as Ali. How much money do they have altogether?

a) How much money do they have altogether?  
b) How much does Ali have more than Tom?

Students should by now have no problem with the first 2 steps. However, finding the value of  $1u$  is not so straightforward.

From the 1<sup>st</sup> model, Tom is 20u after receiving \$20 from Ali. So, looking at the 1<sup>st</sup> model, Tom at first will be  $(20u - 20)$ .

From the 2<sup>nd</sup> model, Tom is 5u after giving \$25 to Ali. So, looking at the 2<sup>nd</sup> model, Tom at first will be  $(5u + 25)$ .

Therefore,

$$20u - 20 = 9u + 35$$

$$20u - 9u = 35 + 20$$

$$11u = 55$$

$$11u = 55$$

$$1u = 5$$

$$52u = 5 \times 52 = 260$$

a) They have **\$260.00** altogether.      b) Ali has **\$100.00** more than Tom.

**Example 3**

If Ali gives Tom \$30 Ali will have  $\frac{11}{10}$  as much money as Tom. If Ali gives \$80 to Tom, Ali will have  $\frac{2}{3}$  as much money as Tom. How much money do they have altogether?

a) How much money do they have altogether?  
b) How much does Ali have less than Tom?

From 1<sup>st</sup> model,      From 2<sup>nd</sup> Model,

Ali at first  $\rightarrow 39u + 30$       Ali at first  $\rightarrow 14u + 80$

$$39u + 30 = 14u + 80$$

$$39u - 14u = 80 - 30$$

$$39u - 14u = 50$$

$$25u = 50$$

$$1u = 50 \div 25 = 2$$

125u = 125  $\times$  2 = 250

a) They have **\$252.00** altogether.

$$39u + 30 = 39 \times 2 + 30 = 108 \text{ (Ali's money at first)}$$

$$250 - 108 = 144 \text{ (Tom's money at first)}$$

$$144 - 108 = 36$$

b) Ali has **\$36.00** less than Tom.

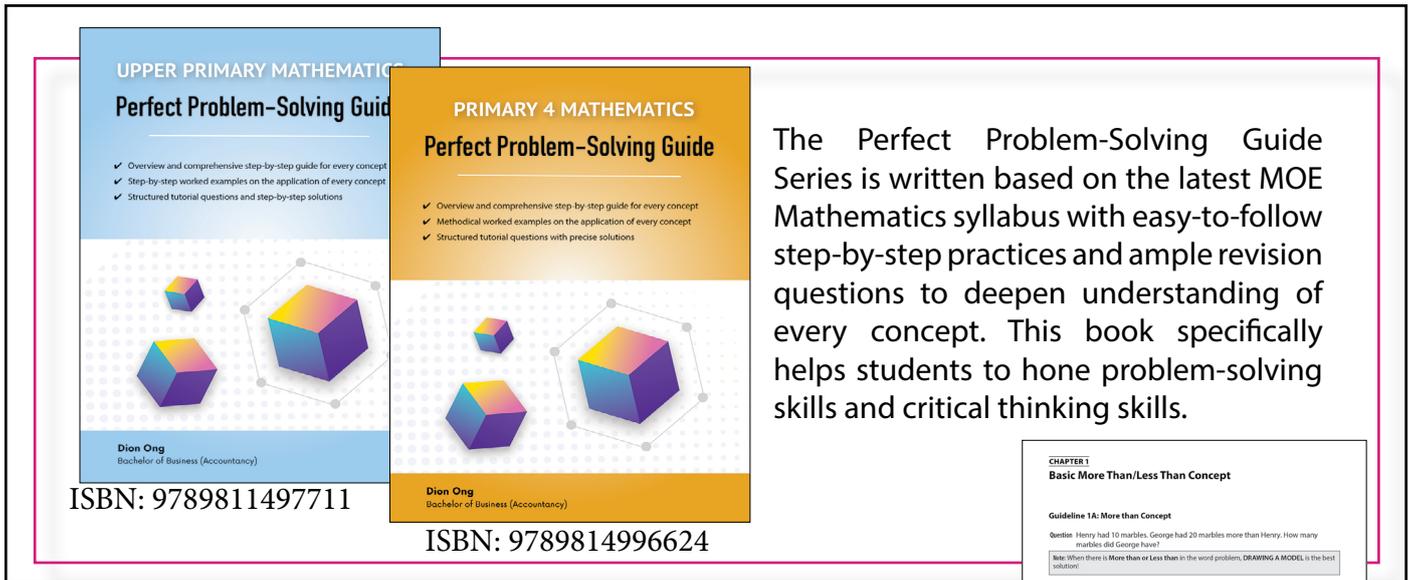
**Practice Questions 2**

1. All and Tom have some money in the ratio of 1 : 7. Tom then give to Ali. Tom now has  $1\frac{1}{2}$  more money than Ali. How much money have at first?
2. Fatty weighs  $\frac{2}{3}$  as much as Obese. Fatty then gives 56.25 kg to Obese. Fatty now weighs  $\frac{11}{15}$  less than Obese. How much weigh after losing weight?
3. Tank A has  $\frac{7}{8}$  as much water as Tank B. All then pours 32.5 ml from Tank A into Tank B. Tank A now has  $\frac{2}{3}$  as much water as Tank B. How much water did Tank A have in the end?
4. Pears are sold at \$3 each. For every 4 pears bought, the customer is allowed to buy the 5<sup>th</sup> pear at 40% discount. Ali has \$90 and he buys as many pears as possible. How much money does Ali have left?
5. For every 3 pots that a customer buys, he/she will be given 1 free. Each pot costs \$2.55. Tom wishes to buy 207 pots. What is the minimum sum of money he must pay?
6. All delivers letters for Tom's company. For every letter delivered on time, he is paid \$3.20. For every late delivery, he has to pay Tom's company \$1.40. One day, the number of letters delivered late by Ali is  $\frac{1}{3}$  of the number of letters delivered on time. Ali is then paid \$92.40. How much more will Ali earn if he delivers all the letters on time?
7. Tom owns a farm. There are  $\frac{2}{3}$  as many chickens as ducks. There are  $\frac{1}{4}$  as many ducks as pigs. All the pigs and chickens have 416 more legs than all the ducks. How many ducks does Tom have?

### Practice Questions

Multiple practice questions of examination standard to test the students' problem sums solving skills.

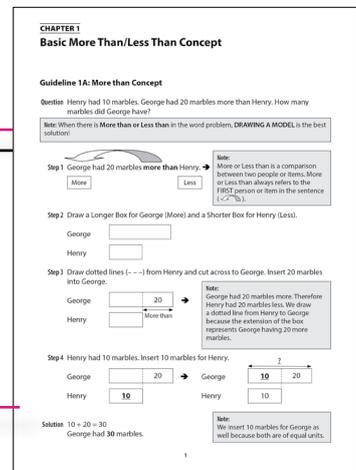
# Perfect Problem-Solving Guide



The Perfect Problem-Solving Guide Series is written based on the latest MOE Mathematics syllabus with easy-to-follow step-by-step practices and ample revision questions to deepen understanding of every concept. This book specifically helps students to hone problem-solving skills and critical thinking skills.

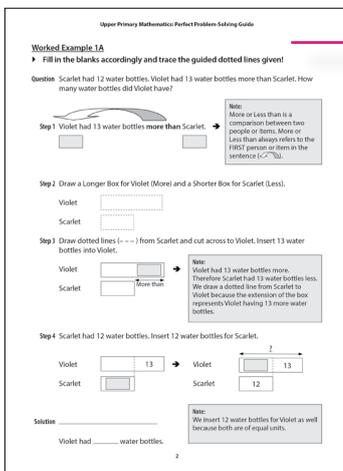
## Guidelines

Each chapter contains guidelines of the concepts with clear explanations.



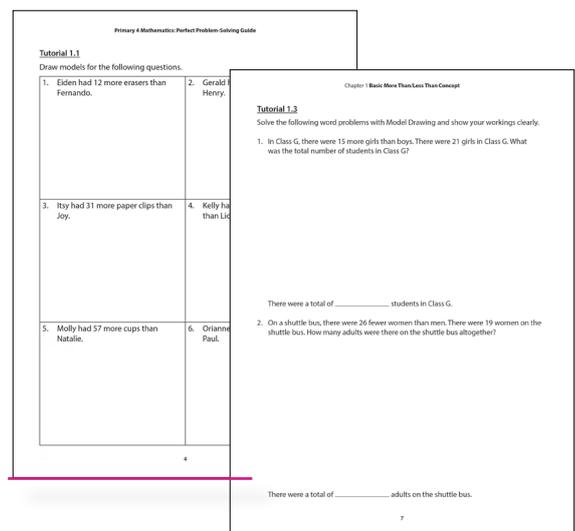
## Worked Examples

Each concept is illustrated by a step-by-step worked example.



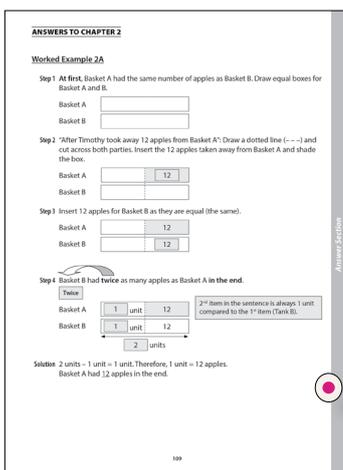
## Tutorial Questions

There are structured tutorial questions for basic application of each concept, and further tutorial questions adapted from exams with varying levels of difficulty.



## Answers

Step-by-step solutions are provided for all questions to optimise the learning of every student.



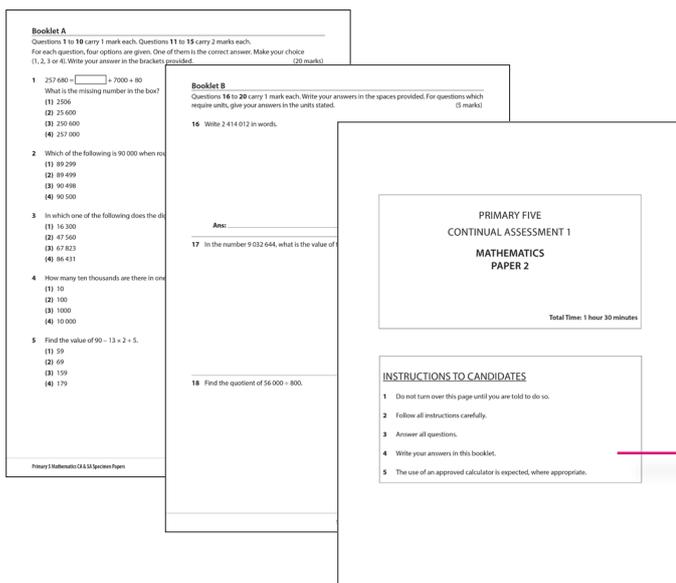
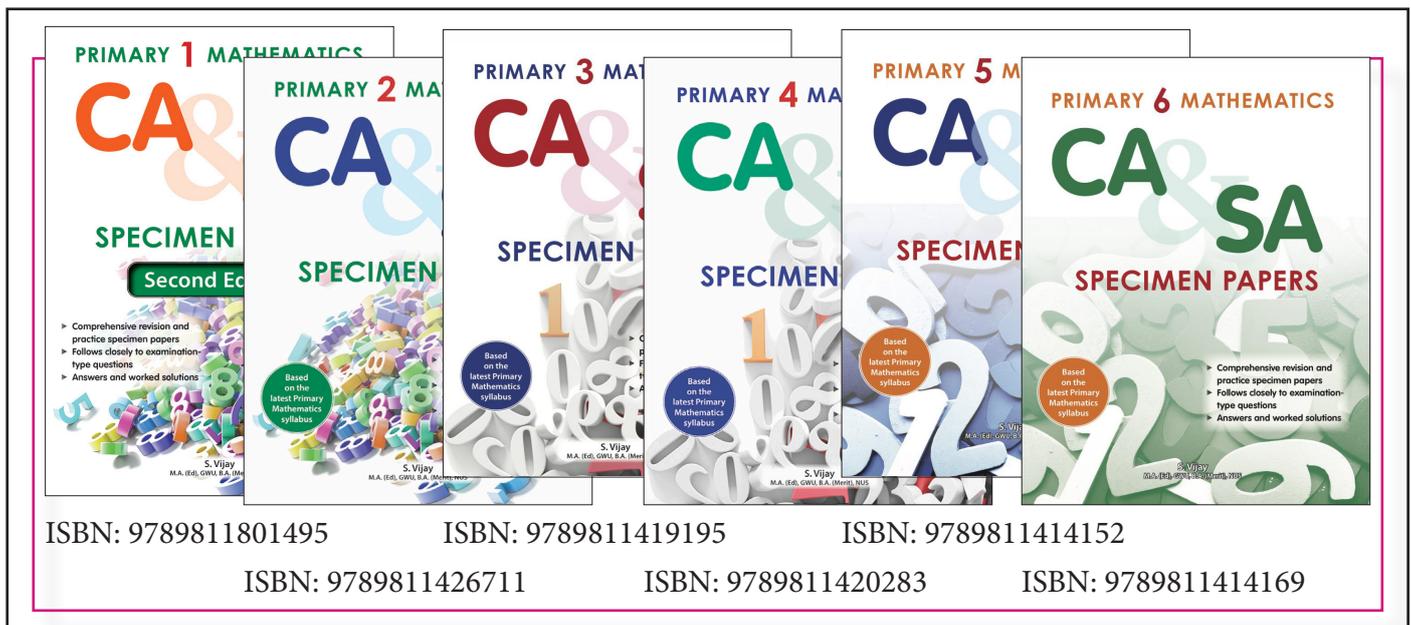


## CA & SA Specimen Papers

Written based on the latest MOE Mathematics syllabus, this series provides students with comprehensive revision and practice for the actual continual and semestral assessments held in schools.

Each book in the series contains 8 specimen papers:

- 2 sets of Continual Assessment 1 (Specimen Papers 1 & 2)
- 2 sets of Semestral Assessment 1 (Specimen Papers 3 & 4)
- 2 sets of Continual Assessment 2 (Specimen Papers 5 & 6)
- 2 sets of Semestral Assessment 2 (Specimen Papers 7 & 8)



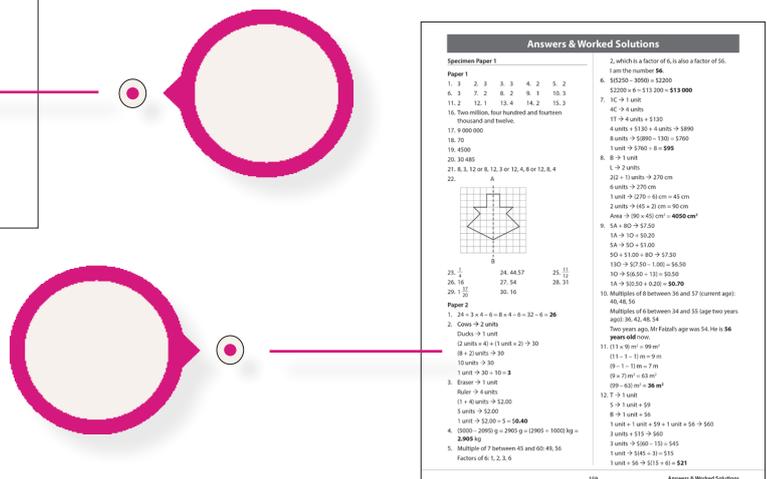
### Aligned with PSLE Format

Each specimen paper follows the latest examinations format:

- Paper 1 Booklet A – 15 multiple-choice questions,
- Paper 1 Booklet B – 15 short-answer questions, and
- Paper 2 – 5 short-answer and 12 long-answer questions.

### Comprehensive Answer Keys

All answers are provided. Worked solutions for the questions in Paper 2 are also provided to help students who have difficulties solving these sums.



## Mastering Assessment/Examination Skills

This series is a compilation of the latest practice questions in accordance with the latest PSLE Mathematics syllabus issued by the Ministry of Education. With contributions from teacher consultants with decades of experience, the examination practices in this book aim to be a one-stop and comprehensive guide for Mathematics learning.

The questions are challenging and specifically hand-picked for their value in teaching students important concepts and examination techniques. Each book consists of 9 practice papers with full answers and worked solutions for the problem sums.

These examination papers aim to teach students important concepts and help students discover weaknesses in their answering techniques which they may not be aware of.

PRIMARY **1** MATHEMATICS PRACTICE PAPER Mastering Assessment Skills through Practice

PRIMARY **2** MATHEMATICS PRACTICE PAPER Mastering Assessment Skills through Practice

PRIMARY **3** MATHEMATICS PRACTICE PAPER Mastering Examination Skills through Practice

PRIMARY **4** MATHEMATICS PRACTICE PAPERS Mastering Examination Skills through Practice

PRIMARY **5** MATHEMATICS PRACTICE PAPER Mastering Examination Skills through Practice

PRIMARY **6** MATHEMATICS PRACTICE PAPERS Mastering Examination Skills through Practice

ISBN: 9789814996051      ISBN: 9789811188756      ISBN: 9789811147982  
 ISBN: 9789811197710      ISBN: 9789811147999      ISBN: 9789811180378

5 3 pencils cost \$2.10. How much do 5 pencils cost?  
 (1) \$2.80  
 (2) \$3.50  
 (3) \$6.70  
 (4) \$10.50

6 Which of the following decimals is closest to 3.57?  
 (1) 3.49  
 (2) 3.498  
 (3) 3.506  
 (4) 3.51

7 Simplify  $9 - 3h + 2 - 4h$ .  
 (1)  $4h$   
 (2)  $7 - 7h$   
 (3)  $11 - 7h$   
 (4)  $11 - h$

8 The figure below shows the net of a cube. Which 2 are folded into a cube?

A
B
C
D

(1) A and B  
 (2) A and D  
 (3) C and E  
 (4) F and E

9 A water tank has a length of 20 cm, a breadth of 10 filled with water. How much water is needed to fill it?  
 (1) 400 cm<sup>3</sup>  
 (2) 1000 cm<sup>3</sup>  
 (3) 10,000 cm<sup>3</sup>  
 (4) 4000 cm<sup>3</sup>

15 The ratio of number of marbles in Box A to the number of marbles in Box B is 3 : 16. After 200 marbles were removed from Box B and placed into Box A, the ratio of the number of marbles in Box A to Box B became 1 : 1.  
 (a) How many marbles were there in Box B at first? [3m]  
 (b) How many marbles were there in Box A in the end? [1m]

Ans: (a) \_\_\_\_\_  
 (b) \_\_\_\_\_

16 The table below shows number of stamps collected by 5 students.

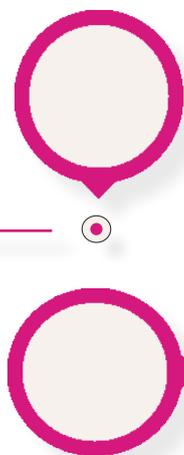
Student	Number of marbles
Albert	204
Beatrice	177
Cindy	?
Daniel	?
Eileen	430

(a) If the average number of stamps collected by Beatrice, Cindy and Daniel is 222, what is the average number of stamps collected by all 5 of them? [3m]  
 (b) Cindy has twice as many stamps as Daniel. How many stamps does she have? [2m]

Ans: (a) \_\_\_\_\_  
 (b) \_\_\_\_\_

### Challenging Problems

Challenging problems are included in this book as a way to test the students' understanding of the topics and to expose them to a wider variety of questions.



### Answer Key

Answers are provided with worked solutions for students to review their answers.

Primary Mathematics Practice Papers

#### Answers

**Examination 1**

1. 2, 2, 1, 3, 4, 4, 2  
 5, 1, 6, 1, 7, 3, 8, 3  
 9, 1, 10, 1, 11, 3, 12, 1  
 13, 1, 14, 2, 15, 4, 16, 3  
 17, 2, 18, 2, 19, 2, 20, 1  
 21. 80.047      22. 32  
 23. 10.409      24.  $1\frac{1}{2}$   
 25.  $\frac{2}{5}$       26. 9 burgers  
 27. 57      28. Thursday  
 29. 56      30. 13  
 31. 36      32. \$3.60  
 33. 12 cm      34. 44 cm  
 35. 2, 1      36. 137  
 37. 26 workers      38. 0.18 kg  
 39. 9 lines of symmetry      40. 340

41. Number of boys =  $\frac{2}{5} \times 270 = 108$  boys  
 Number of girls =  $270 - 108 = 162$  girls  
 Total money donated =  $108 \times \$4 + 162 \times \$5 = \$1242$   
 \$1242 is donated in total.

42. (a) Difference in number of stickers given =  $10 - 5 = 5$  stickers  
 Difference in total number of stickers required =  $45 - 30 = 15$  stickers  
 Number of stickers in Mrs Tan's class =  $75 \div 5 = 15$  students  
 There were 15 students in Mrs Tan's class.

(b) Number of stickers Mrs Tan had =  $15 \times 10 = 150$  stickers  
 Mrs Tan had 120 stickers altogether.

43. Wendy had \_\_\_\_\_ 54 cookies  
 John had \_\_\_\_\_ 54 cookies  
 Number of cookies John had at first =  $54 - 18 = 36$  cookies  
 Number of cookies Wendy had at first =  $54 - 18 = 36$  cookies  
 After Wendy ate 6 cookies, number of cookies she had =  $36 - 6 = 30$  cookies.  
 Number of cookies John had after eating some =  $30 - 3 = 27$

**Examination 2**

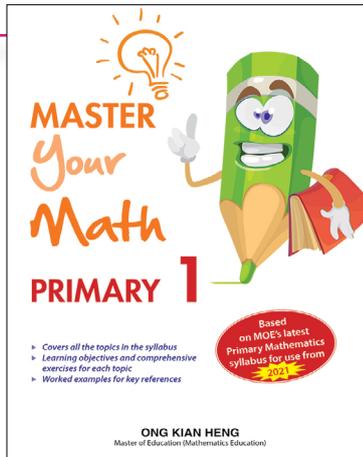
1. 4, 2, 1, 3, 4, 4, 4  
 5, 2, 6, 3, 7, 4, 8, 2  
 9, 2, 10, 1, 11, 2, 12, 1  
 13, 3, 14, 1, 15, 4, 16, 2  
 17, 3, 18, 4, 19, 2, 20, 2  
 21. 16.68      22. 288      24. 60  
 25. 3500      26.  $\frac{1}{5}, 0.4, \frac{2}{5}$   
 27. June      28. 2322  
 29. 4 games      30. \$2.08  
 31. 26 cups      32. \$8.45  
 33. 5      34. 5aw  
 35. 5, 1      36. 541

Number of cookies John ate =  $36 - 18 = 18$  cookies  
 John ate 8 cookies.  
 44. (a) Number of students who like durian and vanilla combined =  $200 - 54 - 37 = 24 = 24 \times 85$   
 Number of students who like durian and vanilla = \_\_\_\_\_  
 Number of students who like durian flavour most =  $48 \div 3 = 16$  students  
 88 students liked durian flavour most.  
 (b) Number of boys who like chocolate flavour most =  $54 \div 3 = 18$  boys  
 18 boys like chocolate flavour most.  
 45. 114 stickers  
 Albert \_\_\_\_\_  
 Benny \_\_\_\_\_  
 Chen \_\_\_\_\_  
 2 units =  $114 \div 4 = 28.5$  stickers  
 1 unit =  $100 \div 2 = 50$  stickers  
 Total number of stickers =  $50 \times 5$  units = 14 stickers = 236 stickers  
 They had 236 stickers altogether.

**Examination 3**

1. 4, 2, 1, 3, 4, 4, 4  
 5, 2, 6, 3, 7, 4, 8, 2  
 9, 2, 10, 1, 11, 2, 12, 1  
 13, 3, 14, 1, 15, 4, 16, 2  
 17, 3, 18, 4, 19, 2, 20, 2  
 21. 16.68      22. 288      24. 60  
 25. 3500      26.  $\frac{1}{5}, 0.4, \frac{2}{5}$   
 27. June      28. 2322  
 29. 4 games      30. \$2.08  
 31. 26 cups      32. \$8.45  
 33. 5      34. 5aw  
 35. 5, 1      36. 541

# Master Your Math



ISBN: 9789814996266

Master Your Math Primary 1 was conceptualised and developed to provide students in primary schools with an organised approach to revising Primary Mathematics through comprehensive practices ranging from the basic to the challenging. All topics in the latest Primary Mathematics syllabus issued by the Ministry of Education, Singapore, are covered.

## Topic 1 Numbers to 10

### LEARNING OBJECTIVES

At the end of this topic, students should be able to do the following:

- Count to 10.
- Read and write numbers in numerals and in words.
- Compare the number of objects in two or more sets.
- Compare and order numbers up to 10.

### Section A

#### Exercise 1a

Write the numbers. The first question has been done for you.

- Eight 8
- Three \_\_\_\_\_
- Ten \_\_\_\_\_
- Seven \_\_\_\_\_
- Five \_\_\_\_\_
- Nine \_\_\_\_\_

1

## Learning Objectives

Brief learning outcomes of each topic are clearly spelt out so students know what is expected of each topic in the curriculum.

## Worked Examples

Examples are given in the form of worked questions in the exercises to give students a clear reference on how each type of question should be answered.

Master Your Math Primary 1

**Exercise 4**

Count and compare the two sets. Fill in each blank with the correct answer. The first question has been done for you.

- |       |       |
|-------|-------|
| Set A | Set B |
|       |       |

Set A has 3 oranges.  
Set B has 5 oranges.  
5 is greater than 3.  
3 is smaller than 5.
- |       |       |
|-------|-------|
| Set A | Set B |
|       |       |

Set A has \_\_\_\_\_ muffins.  
Set B has \_\_\_\_\_ muffins.  
\_\_\_\_\_ is greater than \_\_\_\_\_.  
\_\_\_\_\_ is smaller than \_\_\_\_\_.

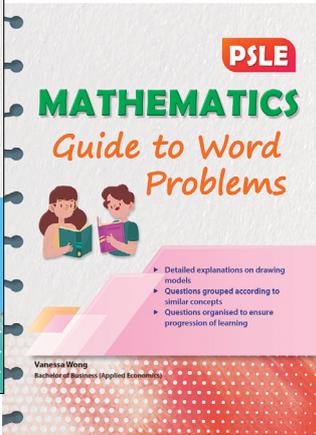
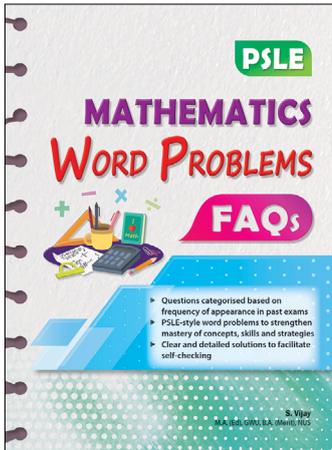
## Answers

<b>TOPIC 1</b>		<b>Section B</b>	
<b>Section A</b>		<b>Exercise 1</b>	
<b>Exercise 1a</b>		1. 11                    3. eight	
2. 3	3. 10	2. 10                    4. 7	5. 9
4. 7	5. 9	6. 7	7. 1, 2, 5, 7, 9
8. 9	7. 2	8. Six B	
9. 8		9. Circle 7 and 8	
<b>Exercise 1b</b>		10. Colour the sun with the number 6.	
2. ten	3. nine	11. 3	
4. eight	5. four	12. Accept any possible answer.	
6. two	7. seven	<i>Exercise 2a</i>	
8. one		<b>TOPIC 2</b>	
<b>Exercise 2</b>		<b>Section A</b>	
2. 6, 8	3. 7, 8	<b>Exercise 1a</b>	
4. 5, 2	5. 10, 9, 6	2. 11	3. 16
<b>Exercise 3</b>		4. 20	5. 18
2. Tick Set C		6. 14	
3. Tick Set F		<b>Exercise 1b</b>	
4. Tick Set H		2. twelve	3. seventeen
5. Tick Set I		4. fifteen	5. fourteen
6. Tick Set L		6. sixteen	
<b>Exercise 4</b>		<b>Exercise 2</b>	
2. 7, 4, 7, 4, 4, 7	3. 2, 8, 8, 2, 2, 8	2. 10, 20	3. 14, 12
4. 6, 10, 10, 6, 6, 10		4. 10, 18	5. 18, 20
<b>Exercise 5a</b>		<b>Exercise 3</b>	
2. smaller than	3. the same as	2. 14, 2, 10	3. 9, 16, 18
4. greater than	5. greater than	4. 13, 16, 19	5. 7, A, B
6. smaller than	7. smaller than	2, 2; 4; D	
8. greater than	9. smaller than	4. 10, 16, 15	9, 5, Q, P
10. greater than		<b>Exercise 4</b>	
<b>Exercise 5b</b>		2. 5	
3. 1		4. 18	5. 2
4. 2		6. 17	9. 10
5. 3		10.	
6. 8		<b>Exercise 5a</b>	
7. 6		2. 6, 10, 15, 16	3. 12, 14, 17, 20
8. 9		4. 13, 16, 19	
9. 4		<b>Exercise 5b</b>	
10. 3		2. 10, 12, 10	3. 20, 16, 15, 4
<b>Exercise 6a</b>		3. 10, 14, 12, 11	
2. 1, 2, 3, 5	3. 4, 5, 6, 9		
4. 1, 5, 7, 8			
<b>Exercise 6b</b>			
2. 9, 8, 3, 2	3. 9, 7, 5, 4		
4. 7, 2, 2, 1			

## Answers

An answer key is also given at the end of the book for students to assess their own answers so that they can learn from their mistakes.

## PSLE Mathematics



### Word Problems FAQs

ISBN: 9789814996457

### Guide to Word Problems

ISBN: 9789814996655

The FAQs title is written based on the latest Primary Mathematics syllabus by the Ministry of Education. The word problems in this book are crafted to model closely after past-year actual PSLE questions, allowing students to be familiar with the types of word problems they can expect to see in the PSLE Mathematics paper.

The Guide to Word Problems includes detailed explanations on how the steps on drawing models come about and pointers that give students the opportunity to ponder on the questions. The questions in this book are grouped the questions according to similar concepts and the level of difficulty to ensure a progression of learning.

### Worked Examples

Each worksheet in the FAQs book begins with a worked example followed by seven related word problems for students to apply the concepts and strategies learnt.

**FAQ #1**  
**Intervals**

**Choice tip**  
When objects are arranged in a line with intervals between them, the total number of intervals is 1 less than the total number of objects.

In the example below, the number of intervals between the 1st shrub and the 30th shrub is  $30 - 1 = 29$ .

**Example**  
30 shrubs are planted along a road. The shrubs are planted equally apart at 8 metres.  
What is the distance of the road from the first to the last shrub?

**Solution**  
Distance between one shrub and the next = 8 m  
Number of intervals between the first and the last shrub  
=  $30 - 1$   
= 29  
Distance of the road from the first to the last shrub  
=  $29 \times 8$   
= 232 m

**UNIT 1.1 BASICS OF FRACTIONS AND PERCENTAGES**

1. Kristian had  $\frac{1}{2}$  kg of sugar. She used  $\frac{1}{4}$  kg of sugar to bake some cookies and  $\frac{1}{8}$  kg of sugar to bake some muffins. How many kilograms of sugar had she left? Leave your answer in its simplest form.

**Think and Ask**  
What do you observe to be the same in all these fractions? They all came with a unit of measurement. We know exactly how many kilograms of sugar Kristian had and the kilograms of sugar that she used to bake some cookies and muffins. We do not have to draw models for any of the fractions as we already know how much sugar there was.

**Step 1** Find the total amount of sugar used by adding the amount of sugar she used for baking cookies and muffins together. Change to the equivalent fractions by making both the denominators to be the same. The lowest common multiple of 4 and 8 is 8.

*\*It is not compulsory for students to indicate the unit of measurement, eg, in their workings. But for better understanding, we will include the 'kg' in our presentations.*

**Step 2** Find the amount of sugar left by subtracting the amount of sugar used from the total amount of sugar Kristian had at first.

8. Sunarti spent  $\frac{1}{4}$  of her money on a dress. She then spent  $\frac{1}{5}$  less than  $\frac{1}{4}$  of the remaining money on a blouse. She spent the last \$93 on a pair of shoes.

How much did Sunarti have at first?

**Think and Ask**  
How is this question different from the ones we see from question 1 to 7? The question has extra absolute values of 12 and 53. Hence, it is not possible to cut the models into equal parts.

**Step 1** Draw 2 blocks to represent Sunarti's money at first. She spent  $\frac{1}{4}$  less than  $\frac{1}{4}$  of her money on a dress, hence  $\frac{1}{5}$  means she spent  $\frac{1}{5}$  MORE than  $\frac{1}{4}$  of her money. Label all the information in the model.

**Step 2** Align the portion representing the remaining money, we will draw another model of 2 blocks below it.

**Step 3** She spent  $\frac{1}{5}$  less than  $\frac{1}{4}$  of her remaining money on a blouse, hence  $\frac{1}{5}$  means that she spent  $\frac{1}{5}$  MORE than  $\frac{1}{4}$  of her remaining money on the pair of shoes.

**Step 4** Work backwards to find the amount of money at first. Equate \$3 to more than  $\frac{1}{5}$  of her remaining money to \$93 to find the remaining amount of money.

**Step 5** Equate \$2 more than  $\frac{1}{4}$  of her money to \$93 to find Sunarti's amount of money at first.

Total amount of money at first  
Dress:  $\frac{1}{4}$   
Blouse:  $\frac{1}{5}$  less than  $\frac{1}{4}$   
Shoes: \$93

of the remaining money = \$3 = \$93  
of the remaining money =  $\frac{1}{5}$  less than  $\frac{1}{4}$   
= \$93 - \$3  
= \$90  
of the total amount of money =  $\frac{1}{4}$  = \$180  
of the total amount of money =  $\frac{1}{4}$  = \$178  
Total amount of money =  $2 \times \$178$   
= \$356  
Sunarti had \$356 at first.

### Practice Questions

The worksheets in the FAQs title are categorised according to the types of questions that have frequently appeared in past year papers. The questions are arranged with increasing levels of difficulty. Questions 1 to 3 of each worksheet are relatively easy to solve, Questions 4 to 5 are of average difficulty while Questions 6 to 7 are reasonably challenging.

PSLE Mathematics Word Problems **120**

**Practice**

1. 50 trees were planted along one side of a straight road. The trees were planted equally apart at 15 metres. What is the distance between the first and the last tree?

Answer: \_\_\_\_\_

2. Mr. Tan planted 11 seedlings in a row. The seedlings were planted at the same distance apart. The distance between the 1st and the 6th seedling was 20 cm. What was the distance between the 1st and the 11th seedling?

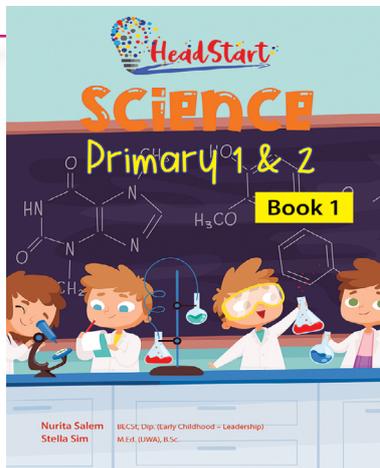
Answer: \_\_\_\_\_

### Think and Ask

Detailed explanations and helpful hints are provided in Guide to Word Problems to help students work through different questions.

## Headstart in Science

The Headstart series prepares students for primary school through exercises that encourage them to learn and develop the relevant skills and knowledge in Science topics.



ISBN: 9789814996488

The Headstart Science Primary 1 & 2 series is specially designed to prepare Primary 1 and 2 children for Primary 3 and 4 Science by exposing them to a variety of exercises and topics that are covered in the primary school syllabus.

The exercises feature eye-catching pictures that stimulate visual learning. Interactive learning methods are used to encourage children to take ownership of their learning. This combination will help children develop an interest in Science.

**Unit 1 Living Things and Non-Living Things**

There are many kinds of things around us. Some are living things and the others are non-living things.

Let us find out the differences between living things and non-living things by looking at their characteristics.

	Characteristics of Living Things	Characteristics of Non-Living Things
1.	They need air, food and water to live.	They do not need air, food and water.
2.	They grow over time.	They do not grow.
3.	They respond to changes around them.	They do not respond or their own.
4.	They reproduce. Some give birth to their young and some lay eggs.	They do not reproduce.
5.	They can move on their own.	They cannot move on their own.

**Unit 2 - Animals**

**Insects**

- Have a hard outer body covering called an exoskeleton
- Have six legs
- Have three body parts

**Fish**

- Have scales as their outer body covering
- Breathe through gills
- Have fins for movement

**Reptiles**

- Have dry scales as their outer body covering

**Amphibians**

- Have moist, smooth skin
- Live on land and in water

**Activity Time**  
Explore and Discover the Animals Around Us

Take a walk round your neighbourhood or make a visit to the zoo. Then try putting the animals that you have spotted into their correct animal groups.

Clue: You can use the **Main Characteristics of Some Different Groups of Animals** to help you in this activity.

### Science Topics

Important Science topics are introduced with clear descriptions and examples.

**Unit 1 - Living Things and Non-Living Things**

**Exercise 1: Match Up**  
Match each characteristic of living things to its meaning.

1. Move	•	• Produce offspring
2. Die	•	• Go to another place or position
3. Grow	•	• Increase in size and change physically
4. Reproduce	•	• React to something that has happened
5. Respond	•	• Stop being alive

**Headstart Science Primary 1 & 2 Book 1**

**Exercise 2: Identify the Living Things**  
All living things need air. They take in oxygen and give out carbon dioxide. Look at the following pictures. Circle the pictures that show living things.

Baby

Packet drink

Zebra

Cupcake

Cloud

Tree

### Engaging Activities

Fun-filled exercises encourage students to apply relevant skills and knowledge.

# Science Olympiad Guide and Practice Books



ISBN: 9789811437229

ISBN: 9789811437212

It is important that science is taught in a captivating and enjoyable way so that students gain a passion for the subject.

This series aims to instil that passion in the hopes of nurturing future scientists. In line with the syllabus issued by the Ministry of Education, Singapore, questions involve critical thinking and picking out hidden hints. To make things more challenging, students might be required to read between the lines and pick out exactly what the question is asking for.

There are inference-based questions where students need to infer trends from diagrams, graphs or tables, or predict what would happen if factors are changed.

Application-based questions teach students how the science concepts they learn can be employed in their everyday lives. They also expose students to new inventions.

Interesting science facts and questions beyond the syllabus are also included for additional knowledge.

#### WORKED-OUT EXAMPLES

Answer: C

Explanation: **Option A is incorrect.** Diffusion occurs in both the liquid and gaseous state.  
**Option B is incorrect.** Diffusion does not occur in the solid state as particles cannot move in the solid state.  
**Option C is correct.** During diffusion, particles spread from where there are more particles to where there are less particles.  
**Option D is incorrect.** During diffusion, particles spread from where there are more particles to where there are less particles.

#### Worked-out example 3 (Primary 4)

Melting point is the temperature where a substance changes from the solid state to the liquid state. Boiling point is the temperature where a substance changes from the liquid state to the gaseous state. When impurities are present, the melting point becomes lower while the boiling point becomes higher.  
For example, water has a melting point of  $0^{\circ}\text{C}$  and a boiling point of  $100^{\circ}\text{C}$ . When salt is added to water, the salt is an impurity and the melting point will be about  $-2^{\circ}\text{C}$  to  $-3^{\circ}\text{C}$  and the boiling point will be about  $101^{\circ}\text{C}$  to  $103^{\circ}\text{C}$ . The melting point of potassium chloride is about  $770^{\circ}\text{C}$ .

What is the most likely boiling point of a sample of water that contains a small quantity of potassium chloride?

- A  $773^{\circ}\text{C}$
- B  $456^{\circ}\text{C}$
- C  $90^{\circ}\text{C}$
- D  $104^{\circ}\text{C}$

Answer: D

Explanation: **Option A is incorrect.** Potassium chloride is the impurity added. The boiling point should be related to that of water not potassium chloride. The boiling point of water should then increase and be slightly above  $100^{\circ}\text{C}$ .

17

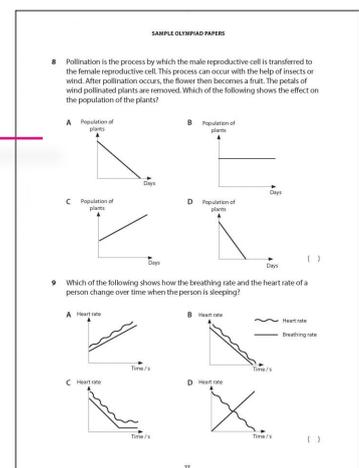
## Examples

Worked solutions are provided with examples so that students can learn the thought process and apply it to practice questions.



## Sample Papers

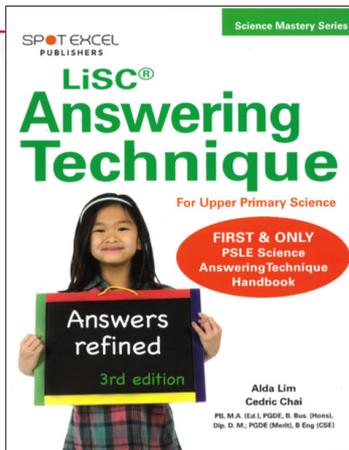
Sample Olympiad papers are provided for students to practise concepts learnt.



27

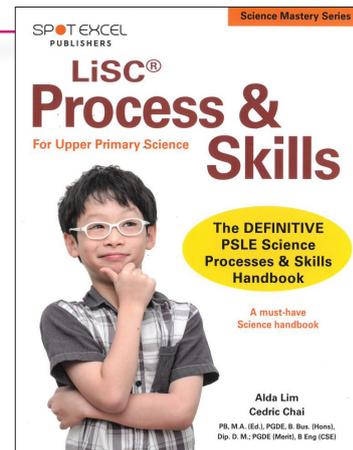
## LiSC® Science Mastery Series

This series of books is the culmination of our years of research and experience in marking, teaching and guiding teachers and students in the differentiation of sound answers and questions. It provides a complete and comprehensive guide from the understanding of concepts to the mastery of processes and skills, to answering perfection, each targeting a different aspect to help students achieve excellence in Science examinations.



**Answering Technique**  
ISBN: 9789811415258

This book aims specifically to help those who already have a good grasp of concepts and are seeking a breakthrough in their answering. Through this book, students will understand the meaning of active application of concepts to unfamiliar situations, bridge the gap they encountered in articulating their thoughts and thus attain improvement in their results from the minimisation of marks loss due to inaccurate, non-precise and incomplete answers.



**Process & Skills**  
ISBN: 9789811415241

This book aims specifically to help students in the identification of key requirements in each process and skill, hereby equipping students with a set of practical and easy to apply consolidated processes and skills to successfully tackle examination questions which involve experimental set-ups and/or are investigative in nature. The 11 process skills stipulated in the current school syllabus are integrated into commonly tested examination items in this book, complete with detailed explanations and illustrations in easy-to-follow steps and visualisations.

Chapter 2: Unpacking the Question: Diagram Key

**EXAMPLES**

1. LIFE SCIENCE

The diagrams below show two types of fish. Study them carefully and answer the question that follows.

Explain two ways in which Fish B is better adapted for survival than Fish A.

**ANSWER**

- Fish B has stripes on its body to camouflage and hence hide. Fish A does not.
- Fish B has a more streamlined body and hence can swim faster.

**LiSC® Approach – DIAGRAM KEY:**  
Identification of **FEATURES** that differentiate the diagrams provided.

© Spot Excel Publishers Pte Ltd

Chapter 2: Unpacking the Question: Diagram Key

**EXPLANATION**

Analyse the diagrams carefully. Identify features that only Fish B possesses.

**Explanation for Answer to Part (i):**

Applying the LiSC® approach	Formulation of Answer	Detailed Explanation
Identify the key (Diagram)	Fish B: Stripes	The presence of stripes is a prominent feature of Fish B that Fish A does not have.
Identify the concept used	Adaptation	As provided in the question, the concept or topic listed is on Adaptations (PE – Interactions).
Linking the Key to Concept used	Camouflage	Stripes are linked to the concept of camouflaging in the topic of Adaptation.
Final Answer	Hide better	Camouflaging refers to the same concept of hiding well.

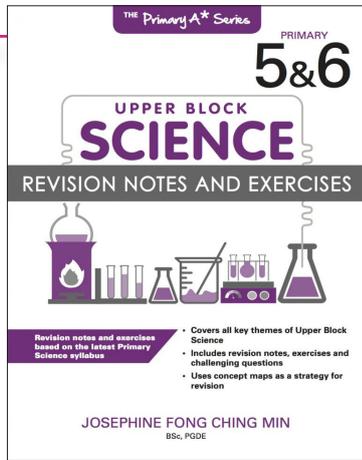
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### Comprehensive Examples

Answers are provided for examples with key words underlined so that students can identify them easily and learn the structure to answering questions.



# Science Revision Notes and Exercises



ISBN: 9789811148026

This is a revision guide in Upper Block Science for students in Primary 5 and Primary 6. It covers all the 4 themes in the Upper Block syllabus and features comprehensive revision notes and illustrations, exercises after each theme, and challenging questions at the end of the book. Key features of the book include:

1. Using concept maps as a strategy for revision
2. Linking themes to one another
3. Applications of science to everyday life in the Science in Our Life section
4. Inquiry and deep-thinking questions to extend the student's scope of the topic in the Thinking Out Loud section
5. Tagging of exercises with question-type so students know what skills they are tested on when they attempt a question. Suggested answers are also included for self-check.

Thematic Assessment 1

2. The table describes the features of flowers X and Y.

Feature	Flower X	Flower Y
Petal characteristics	Small, dull green	Large, bright red
Scent	No scent	Sweet scent
Location of the anther / stigma	Hangs outside the flower	Sits firmly inside the flower
Pollen characteristics	Light and smooth; present in large quantities	Spiky and sticky; present in moderate quantities

Which of the following statements is valid? (Application)

(1) Both flowers are pollinated by insects.  
 (2) Both flowers are pollinated by wind.  
 (3) Flower X is pollinated by insects and flower Y is pollinated by wind. ( )  
 (4) Flower X is pollinated by wind and flower Y is pollinated by insects. ( )

3. Which of the following is the most probable reason why spores are microscopic? (Application)

(1) The size of the parent plants is also microscopic.  
 (2) They are dispersed by wind.  
 (3) They do not contain hereditary information.  
 (4) They do not undergo sexual reproduction. ( )

4. Which of the following statements is true about the sperm cell and the egg cell? (Knowledge)

(1) Fertilisation happens only in the body of a human female.  
 (2) Millions of sperm cells are produced every day while only one egg cell is produced once a month.  
 (3) Only one sperm cell can fertilise an egg cell. ( )  
 (4) The sperm cell is much larger than the egg cell. ( )

## Thematic Assessments

Practice questions after each unit to test the students' understanding of the topic.

## Learning Outcomes

Learning outcomes stated at the start of every unit so that students can learn more effectively.

**Systems**  
**Unit 5**  
**The Cell – A Unit of Life**

**LEARNING OUTCOMES**

You are expected to be able to do the following:

- Show an understanding that the cell is a basic unit of life
- Identify the different parts of a typical plant cell and animal cell
- Relate the parts of a cell (plant and animal) to its functions
- Compare a typical plant and animal cell

**Cells**

1. All living things are made up of cells – the smallest unit of life.
2. Some living things are made of only one cell, while others are made up of more.

**Single-cell living things**

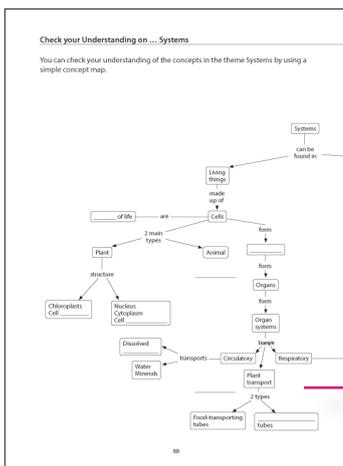
1. A single-cell living thing can perform all the functions of a typical living thing.
2. Examples: yeast, bacteria, amoeba

**Multi-cell living things**

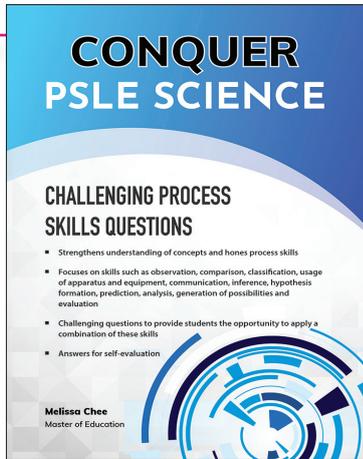
1. We can classify the cells of a multi-cell living thing into two major types: plant cells and animal cells.

## Concept Maps

Concept maps are used at the end of each unit to check the students' understanding of the topics.



# Conquer PSLE Science



ISBN: 9789811447396

Conquer PSLE Science features questions that require the use of process skills in the science syllabus. Each of the 11 process skills has a chapter with both multiple-choice questions (MCQ) and open-ended questions to familiarise students with the various types of questions. These questions are taken from as many topics as possible to allow for breadth and exposure to content. There is also a short introduction on each process skill and knowledge required for that skill so students can be informed before starting on the questions. Answers are provided for self-evaluation.

### Unit 3 Process Skill: CLASSIFYING

Classifying is a skill that requires you to group objects or events based on common characteristics and patterns. These common characteristics include the physical and behavioural characteristics of living organisms.

Classification allows us to group similar things together so that it is easier for researching. It also allows us to better understand the organism for further research by comparing it to other organisms which are observed to have similar characteristics as them.

Questions are often in the form of interpreting a classification chart or filling up parts of a classification chart. To begin, we must first know the aim of the classification. The question may directly state the aim, for instance: flowering plants vs non-flowering plants. Only then can we begin to classify.

After that, take note of common traits present in the objects to be classified. For instance, do they reproduce by spores?

The classification table can then be filled up, with one side being the flowering plants section and the other being the non-flowering plants section. In some cases, the headings will have to be filled in.

The following are examples of questions:

Example 1 Classify these plants into the respective groups: lotus, sunflower, ferns, moss.

Flowering plants	Non-flowering plants

Example 2 Label the headings of the 2 columns according to their common characteristics.

lotus	Ferns
Sunflower	Moss

21

## Quick Notes & Examples

Notes and examples are provided in each unit to strengthen students' understanding of concepts.

## Clear Diagrams

Aid understanding of questions and concepts.

Conquer PSLE Science

26. 

What could have taken place at X?

A. There was a sudden increase in ferns in the area.  
 B. There was an increase in the amount of grass.  
 C. The cows started reproducing more quickly.  
 D. Snakes were wiped out. ( )

27. Jane made the following set-ups.

What observation was Jane trying to make?

A. She was trying to conclude the effect of temperature on fish.  
 B. She was trying to conclude the effect of the presence of food on fish.  
 C. She was trying to conclude the effect of air on fish.  
 D. She was trying to conclude the effect of light on fish. ( )

54

Conquer PSLE Science

### Exercises on Classifying

- Which parts of the digestive system produce digestive juices?
  - A. Mouth, stomach, small intestine
  - B. Mouth, gullet, stomach
  - C. Mouth, stomach, large intestine
  - D. Mouth, small intestine ( )
- Which of the organisms mentioned below is not a mammal?
  - A. Spiny anteater
  - B. Guppy
  - C. Cheekah
  - D. Human ( )
- Joyce concluded that a seed was not a living thing as the seed did not move by itself when she placed it on a table. Is Joyce's statement correct?
  - A. Yes, it is not a living thing as it does not respond to change.
  - B. Yes, the seed does not grow.
  - C. No, the seed does not reproduce.
  - D. No, the seed is able to grow when provided with warmth, oxygen and water. ( )
- Which option shows the correct classification of animals based on their outer covering?
 

	Hair	Shell	Scales	Feathers
A.	Bat	Tortoise	Goldfish	Sparrow
B.	Human	Snail	Whale	Rhinoceros
C.	Ostrich	Tortoise	Goldfish	Bat
D.	Giraffe	Crocodile	Guppy	Chicken

 ( )

22

## Exercises on Specific Process Skills

Allow students to apply process skills learnt.

Answers

Unit 1

1. D 2. D 3. C 4. A 5. B 6. C 7. D
8. Wooded (due to the presence of a large number of trees) and grassy (due to the presence of a large number of grasses) areas.
9. It has a hollow that allows it to breathe in the atmosphere.
10. The hot air will have a larger expanded surface area with the surrounding air. By convection, the hot air will rise and move away from the stove and cook the food faster.
11. Snake, bat
12. B, C, A
13. The seeds are dispersed by wind as it has a long, thin, papery wing that allows it to be carried away from the parent plant by the wind.
14. It obtains food from the storage root.
15. (Accept any other answer)

16. Switching the metal wire to magnetise a magnetic object temporarily.

17. Cell wall (chloroplast)

Spores are located on the underside of the leaves in ferns.

18. Asexual reproduction

Unit 2

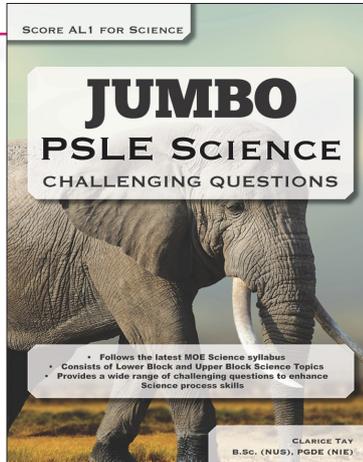
1. C 2. C 3. A 4. D 5. D 6. C 7. B 8. B 9. A 10. C 11. B 12. C
13. Difference (Aryana):
  - 1. Photosynthesis requires the presence of light energy (the open white respiregator does not).
  - 2. Photosynthesis releases oxygen and takes in carbon dioxide, while respiration releases carbon dioxide and takes in oxygen.
  - 3. Photosynthesis only occurs when light is present while respiration occurs all the time.
14. Similarities:
  - 1. They all live in water (part of the pond community).
  - 2. Gills to absorb dissolved oxygen in water.
  - 5. Both have shells that allow them to hide from predators.
  - 6. White foot lark give off greenish gases when sunlight produce energy, leading to...

123

## Detailed Answers

Detailed answers are provided for easy self-evaluation.

# Jumbo PSLE Science Challenging Questions



ISBN: 9789811487699

This book is specially written to cover all 5 themes in the latest MOE Science syllabus – Cycles, Systems, Diversity, Interactions and Energy. It contains multiple-choice questions and open-ended questions that will help to develop critical thinking and build examination confidence in students. The questions are set at a higher standard to encourage students to think about a problem at a deeper level in order to solve them. Complete solutions are provided at the end of the book for self-evaluation.

## Full Range of Topics

Consists of both lower and upper primary Science topics.

### Contents

LOWER BLOCK	
Chapter 1: Living and Non-Living Things.....	2
Chapter 2: Plants.....	10
Chapter 3: Animals.....	15
Chapter 4: Fungi and Bacteria.....	26
Chapter 5: Materials and Their Uses.....	31
Chapter 6: Life Cycles.....	41
Chapter 7: Matter and Its Three States.....	47
Chapter 8: Human Systems.....	58
Chapter 9: Plants' Systems.....	66
Chapter 10: Magnets.....	72
Chapter 11: Light and Shadows.....	81
Chapter 12: Heat and Temperature.....	88
UPPER BLOCK	
Chapter 13: Hereditary and Reproduction in Humans.....	99
Chapter 14: Reproduction in Plants.....	103
Chapter 15: Water in Its Three States.....	108
Chapter 16: The Water Cycle.....	112
Chapter 17: The Plant Transport System.....	115
Chapter 18: Air and Respiration.....	118
Chapter 19: The Circulatory System.....	122
Chapter 20: Cells.....	126
Chapter 21: Electricity.....	129
Chapter 22: Forces.....	135
Chapter 23: The Environment and Food Webs.....	139
Chapter 24: Adapting to an Environment.....	146
Chapter 25: Man and His Environment.....	149
Chapter 26: Energy and Living Things.....	151
Chapter 27: Energy in Its Various Forms.....	153
ANSWER KEY.....	156

### CHAPTER 1 Living and Non-living Things

#### Section A

- Which of the following statements about living things is incorrect?
  - Living things require air, water and food to be able to survive.
  - Living things do not grow over time.
  - Living things can reproduce.
  - Living things can respond to changes around them.
- Pauline received a rabbit as a birthday gift. She placed the rabbit in a container as shown in the diagram below.



What is lacking in Pauline's set-up?

- Pauline's set-up is not sealed.
  - Pauline's set-up does not have water for the rabbit.
  - Pauline's set-up does not have enough food for the rabbit.
  - Pauline's set-up lacks toys for the rabbit to play with.
- Which of the following characteristics is NOT sufficient to prove that John is a living thing?
    - John cries when a ball hits his face while playing soccer.
    - John can no longer fit into his clothes that he used to wear when he was younger.
    - John needs air, food and water to survive.
    - John can talk.
  - Which group of objects are objects that were made from things that were once living?
    - Rubber gloves, wooden chair, leather bag
    - Leather wallet, plastic cup, wooden cabinet
    - Woolen sweater, metal clip, plastic bottle
    - Leather wallet, wooden chair, glass jar

Score AL1 for Science Jumbo PSLE Science Challenging Questions

- Benjamin visited the zoo and saw that the tiger there just gave birth to its young.
  - Which characteristic of living things does that show?
  - Why is it necessary for living things to do so?

- Below is a picture of a robotic vacuum cleaner that can move on its own.



Mary claims that it is a living thing because it can move while Nancy says that it is not.

- Who is correct?
- Explain your answer for part (i).

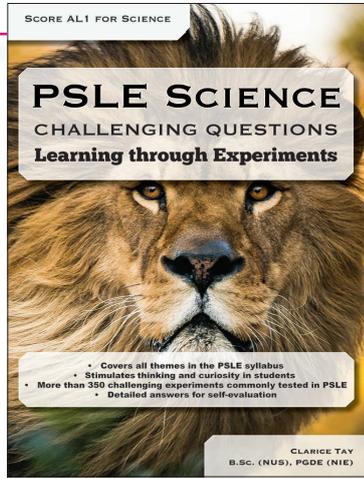
- An elephant is observed to be fanning its ears when the weather is hot. What characteristic of living things does this show?

## Challenging Questions

Provides a wide range of challenging questions to enhance Science process skills.

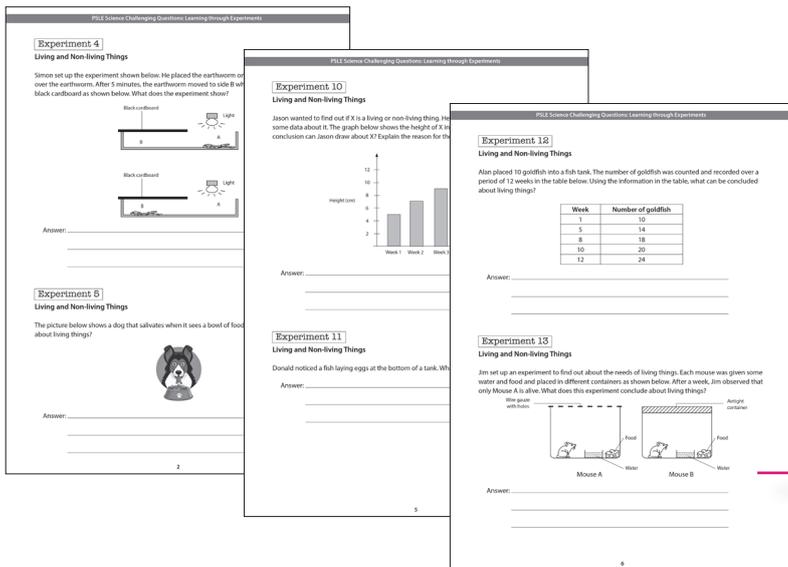
# PSLE Science

## Learning through Experiments



ISBN: 9789811490057

This PSLE book is based on the latest Ministry of Education syllabus. Themes covered in this series are Diversity, Cycles, Interactions, Systems and Energy. These activities allow students to go beyond the textbook and further explore the real-world context of Science. These experiments stimulate students' thinking and provoke curiosity in a fun and exciting manner. Students will be able to pick up skills such as observation, comparing, communicating, inferring, classifying, predicting, analysing and evaluating while carrying out the various experiments in this book. Complete answers are given for self-evaluation.

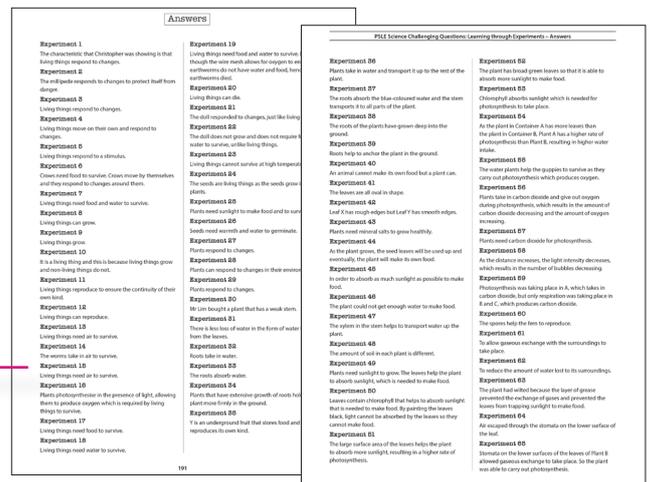


### Challenging Questions

More than 350 challenging experiments commonly tested in PSLE.

### Answers

Detailed answers for self-evaluation.



## Malay Intensive Practice



ISBN: 9789811415609

Lestari Bahasa Kita Edition is written to help newly transited students from the pre-school to primary level. The book consists of intensive practice papers based on the latest syllabus. The content will help expand student's language ability and foundation in Malay language. The practice papers are relatable and suitable for students to expand their knowledge in their vocabulary, language usage and phrasing.

### Practices

Various forms of practice questions to improve the child's Malay language proficiency and linguistic skills.

2 Kosu Kata: Kata Berkawan Berpasang (Antonim)

**Latihan 3**

- Liana nampak **cantik** dan kemas.  
(1) busuk (2) wangi ( )  
(3) buruk (4) tinggi ( )
- Cikgu berasa bangga apabila ramai muridnya **lulus** dengan cemerlang.  
(1) menang (2) gagal ( )  
(3) kalah (4) pandai ( )
- Adik sedih kerana tidak dapat menonton televisyen yang sudah **rosak**.  
(1) baik (2) elok ( )  
(3) baru (4) antik ( )
- Pakcik Ahmad kelihatan **kurus**.  
(1) gemuk (2) pendek ( )  
(3) tinggi (4) panjang ( )
- Kita harus rajin memberus gigi agar selalu **bersih**.  
(1) hitam (2) putih ( )  
(3) bau (4) kotor ( )
- Lelaki itu sentiasa nampak **lapan** dan bergaya.  
(1) bersih (2) tinggi ( )  
(3) segar (4) hadoh ( )

3 Perjajoh Bilangan

**Latihan 2**

keping	biji	pasang	helai
buah	batang	ekor	orang

- Di kandang itu ada lima \_\_\_\_\_ harimau.
- Saya berasa kenyang selepas makan dua \_\_\_\_\_ epal.
- Atuk se \_\_\_\_\_ yang tegas dan berwibawa.
- Kereta itu terbaik setelah melanggar se \_\_\_\_\_ kayu di tengah jalan.
- Ibu gemar memakan dua \_\_\_\_\_ roti bakar dan secawan teh panas.
- Beberapa \_\_\_\_\_ kain yang bermururan darah dijumpai di tempat kejadian.
- Polis telah berjaya menangkap se \_\_\_\_\_ penyekuk saku di pasar tadi.

Lestari Bahasa Kita - Latihan Intensif Darjah 1

**Latihan 1 - Kefahaman Objektif**

Baca pelikan karangan di bawah ini dengan teliti.

Salman gemar berbasikal bersama teman-temannya di sebuah taman berdekatan. Mereka akan berbasikal di sana pada jam lima petang setiap hari. Pada suatu petang, Salman mencuba nasib dengan melakukan aksi yang berbahaya dengan menaikkan layar basikalnya di atas papan gelangkor. Nasib Salman kurang baik. Dia terjatuh dari basikalnya dan lengan kirinya patah akibat dihempas oleh basikalnya.

Seorang penduduk kawasan itu yang sedang bertari-tari anak terlihat kejadian itu. Dengan segera, dia datang menolong Salman. Dia menelefon ambulans dan ibu Salman.

Jawab soalan-soalan berikut dengan jawapan yang sesuai di tanda kurung ( ) yang disediakan.

- Salman suka berbasikal bersama \_\_\_\_\_.  
(1) adik-beradiknya  
(2) jirannya  
(3) seorang diri  
(4) teman-temannya ( )

### Relatable Topics

Topics such as daily activities introduce children to vocabulary that they can easily relate to.

# Buku Latihan Peperiksaan Cekap

Buku Latihan Peperiksaan Cekap (Primary 1 – Primary 6) Series is written especially to prepare and attune students to the latest exam format in accordance with MOE guidelines. The test exercises and questions are comprehensive for students of all levels. Aligned with the current Cekap textbook and activity book, the students will be keen and confident in tackling all types of questions.

ISBN: 9789814996709

ISBN: 9789814996716

ISBN: 9789814996723

3. Omar gemar berenang di \_\_\_\_\_.

- kolam renang
- taman permainan

**BAHAGIAN 1: IMBUHAN (10 markah)**

Arahan: Pilih perkataan yang paling sesuai bagi setiap tempat kosong dalam petikan karangan di bawah ini. Kemudian, tulis **angka jawapan** pilihan kamu di dalam kurungan ( ) yang disediakan.

Razak dan Amir sedang bermain basikal di kolong blok. Razak (1) \_\_\_\_\_ sangat gembira pada hari itu.

Tiba-tiba, Razak hilang (2) \_\_\_\_\_ dan dia terjatuh. Razak mengering kesakitan.

Amir (3) \_\_\_\_\_ dan dia mati akal. Amir ingin (4) \_\_\_\_\_ Razak ke klinik, namun, dia tidak mempunyai cukup wang.

Mujurhah, ada seorang warga emas yang sedang (5) \_\_\_\_\_ tubuhnya di situ. Dia terpaksa akan kejadian yang berlaku sebentar tadi. Dia pun menghulurkan bantuan.

## Comprehensive Questions

Questions test students' understanding of key topics and trains their language skills.

**KUNCI JAWAPAN**

**Darjah 2**

<p style="text-align: center;"><b>UJIAN KECIL 1</b></p> <p><b>Bahagian 1</b></p> <p>1. 1 2. 1 3. 1 4. 1 5. 2 6. 1 7. 2 8. 1 9. 1 10. 1</p> <p><b>Bahagian 2</b></p> <p>11. 2 12. 2 13. 2 14. 2 15. 1</p> <p><b>Bahagian 3</b></p> <p>16. hospital 17. jalan 18. lori 19. menunggang 20. kerosah</p> <p><b>Bahagian 4</b></p> <p>21. Amir mudi yang sangat rajin. 22. Dia dibarek sebagai seorang pegawai. 23. Beliau bersekolah sebagai guru sekolah. 24. Beliau bersekolah sebagai 'raja' di sekolah. 25. Beliau itu, dia juga seorang pelajar yang hebat.</p> <p><b>Bahagian 5</b></p> <p>26. Faidah ialah seorang pembuat roti. 27. Faidah membuat bahan-bahan untuk membuat roti di Pasar Raya Juru atau kedai kedai. 28. Faidah memeringkat tempat jualan dalam keadaan membuat roti yang baik. 29. Apabila mendengar orang berkecuali di panggarnya. 30. Nama roti itu ialah 'Roti Comber'.</p> <p><b>Bahagian 6</b></p> <p>31. basikal empat roda 32. mendapati sebuah kat 33. lori dan ayah 34. basikal pembantu 35. sesuatu alat sekolah</p>	<p style="text-align: center;"><b>UJIAN KECIL 2</b></p> <p><b>Bahagian 1</b></p> <p>1. 1 2. 2 3. 2 4. 1 5. 1 6. 2 7. 1 8. 1 9. 2 10. 1</p> <p><b>Bahagian 2</b></p> <p>11. 2 12. 2 13. 1 14. 1 15. 1</p> <p><b>Bahagian 3</b></p> <p>16. mudi 17. pejabat 18. mengemas 19. bersekolah 20. kerosah</p> <p><b>Bahagian 4</b></p> <p>21. Rais sula membaik. 22. Raisulan Rais ialah dari lazar. 23. Rais sula seorang pegawai polis yang sangat rajin. 24. Rais sula mendengar rasuah itu dan menyuar. 25. Selain itu, dia juga seorang mudi yang rajin.</p> <p><b>Bahagian 5</b></p> <p>26. Menaka bersetia dari Naman Bihan. 27. Menaka bersetia baik dia ada bendera di bawah bendera. 28. Menaka menang dengan bendera dengan erat apabila dia bendera lazar. 29. Bu yang menang Menaka. 30. Menaka membangkitkan semangat buaya yang busu bendera di bawah bendera.</p> <p><b>Bahagian 6</b></p> <p>31. menyempul ulang tahunnya 32. semua orang 33. sangat baik dan rajin 34. guru penuh 35. dia mendapati banyak hadiah</p>
---	---

**KUNCI JAWAPAN**

**Darjah 4**

**Kata Beribuhan)**

2. 3 1  
3

**(Peribahasa)**

1. 8 8 9 7

**(Melengkapkan Teks)**

5. 12 9 13 3

**(Kefahaman 1)**

12. barang perkara yang terjadi di Topi bu dari bungei. (1m)  
13. awak dapat merasah pua lebih berbaik-baik dan keselamatan diri apabila pulang dari sekolah. (1m)

**(Kefahaman Subjektif 2)**

14. pemeranan Amir ialah bola (markah)  
15. ia sedih pada cuti sekolah & dia tidak dapat berjumpa ayahnya untuk bermain bola (markah)  
16. yang pertama adalah dia risau kalau Amir akan kembali terorenda jika dia bermain bola. (1 markah) Contoh yang kedua

adalah dia menginginkannya bermain bola setelah melihatnya kelihatan sedih. (1 markah)  
21. Dia merenduk memenangi pertandingan bola sepak bersama rakan-rakaninya. (2 markah)  
22. menyanyikan  
\* Satu masalah diorang jika ada sebarang bahasa yang mengancam nama jawapan atau jenggot tidak terdengar.  
\* Jawapan-pawapan lain yang memuaskan boleh diterima.

**Latihan 2**

**Bahagian A (Kata Beribuhan)**

1. 2 2 4 3 2  
4 3 5 2

**Bahagian B (Peribahasa)**

6. 6 7 1 8 8 9 7

**Bahagian C (Melengkapkan Teks)**

10. 4 11 7 12 10  
13 3 14 5

**Bahagian D (Kefahaman 1)**

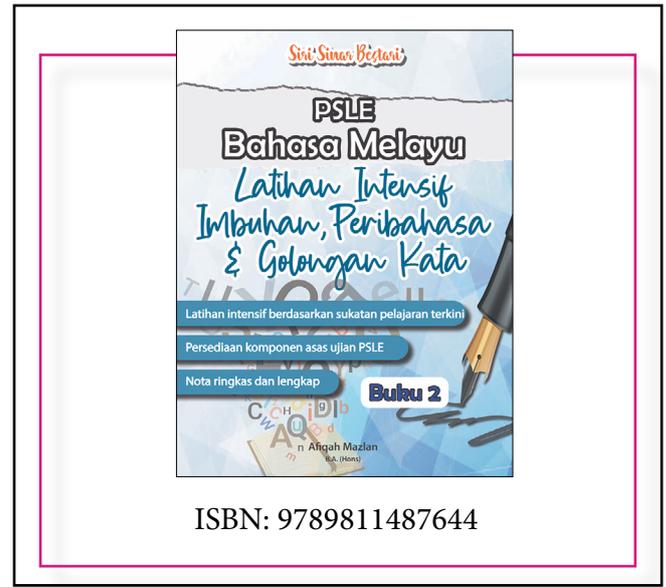
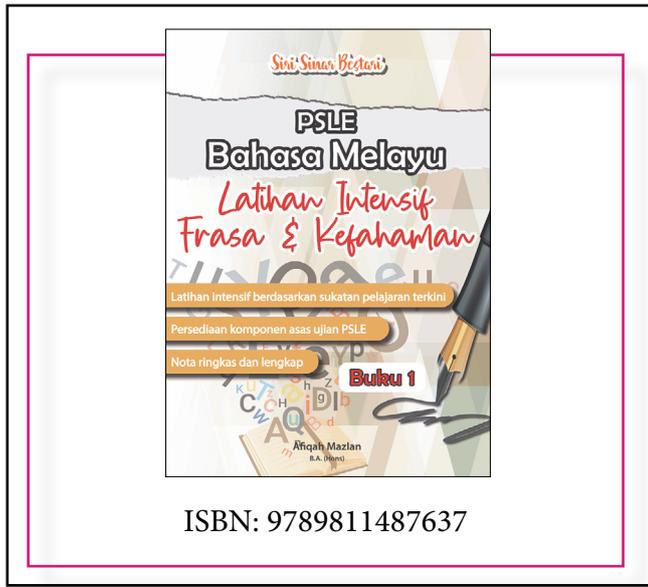
13. 1 16 4  
17. telefon telefon pintar Firdaus yang teringat di Stadium Negara. (1m) Mujurhah, pengawal keselamatan di situ berjaya telefon pintar Firdaus. (1m) Pengawal keselamatan telah menyempulkan telefon pintar Firdaus. (1m) Saya harap bu dapat tanggu sebarang kerana Firdaus sedang dalam perjalanan pulang. (1m)

## Answer Key

Detailed answer key provided for students to learn from their mistakes and to enhance their understanding.

## PSLE Bahasa Melayu

Siri Sinar Bestari is a collection of books that focuses on intensive practices based on the latest PSLE syllabus. Students are provided with challenging exercises similar to the PSLE examination. Each book comes complete with guided notes that emphasise Malay phrases and comprehension, and Malay prefixes/suffixes, proverbs and group words respectively.



**PSLE Bahasa Melayu Buku 1 Latihan Intensif Frasa dan Kefahaman**

**Contoh**

Jurujual: Sila masak, Encik. Boleh saya tolong?  
Encik Omar: Saya hendak beli selendang sutera untuk (1) topkalian di mana tempayang?  
Penasang: Respons ini tepat untuk dijadikan jawap yang diiktirafkan Jurujual lahu. Maaf Encik dikurangkan, membenarkan pembayar.  
Encik Omar berikhtian dengan harga.

Jurujual: Boleh, Encik. Mari ikut saya. Selendang pilahlah yang mana Encik rasa sesuai.  
Encik Omar: Berapa harganya? Boleh awak (2) kusa?

Jurujual: Maaf Encik, harganya tidak boleh dikur kami semanya (3) dibuat daripada kain itu khas daripada Taiwan.  
Penasang: Respons ini tepat untuk dijadikan jawap membenarkan pembayar yang berikhtian dengan harga.

Encik Omar: Bagaimana kalau saya beli tiga helai?  
Jurujual: Respons ini tepat untuk dijadikan jawap membenarkan klu yang berikhtian dengan harga.

**PSLE Bahasa Melayu Buku 2 Latihan Intensif Imbuhan, Peribahasa dan Golongan Kata**

**Fungsi Imbuhan**  
Setiap jenis imbuhan mempunyai fungsi yang tersendiri dan membentuk kata nama, kata kerja ataupun kata adjektif yang baru.

**Kata Nama**

Imbuhan	Kata dasar	Contoh kata nama	Fungsi
ke-	kasih tua	kekasih ketua	penanda orang dengan memberi tumpuan kepada maksud kata dasar
peN-	lakis pandu adil	pelakis pemandu pengadil	orang yang melakukan sesuatu pekerjaan
peN-	nama padam curi	penama pemadam pencuri	nama alat yang digunakan untuk membuat sesuatu
peN-	marah takut sabar kotkor	penmarah penakut penyabar pengkotkor	nama bahan yang ditambahkan kepada sesuatu
-an	lulus tulis baca	lulusan tulisan bacaan	Hasil daripada melakukan sesuatu
ke-...-an	riha berani percaya	kelelahan keberanian kepercayaan	Kawasan tempat atau daerah
peN-	indah baik	penindahan pebaikan	Hasil perbuatan kata dasar
peN-...-an	periksa gih hantar bayar labur bangun	peperiksaan peghitan penghantaran pebayaran pelaburan pembangunan	Menyatakan sifat yang terdapat dalam kata dasar Menunjuk kepada perbuatan atau proses melakukan sesuatu Menunjuk kepada hasil daripada sesuatu perbuatan

### Guided Notes

Guided notes include comprehensive examples to explain the concepts of each chapter.

### Practices

Practices formatted similarly to the PSLE examinations will allow students to be better prepared for the exams.

**Buku 4 - RANGSANGAN GRAFIK**

**Arahan:** Berdasarkan borosr tadi, pilih jawapan yang paling sesuai bagi soalan 1 hingga soalan 3. Kemudian, tulis angka jawapan kamu di tempat kosong yang disediakan. (soalan 4, tulis jawapan kamu di tempat kosong yang disediakan di halaman selepas)

- Sambutan Majulah-Singapura ini diadakan khas \_\_\_\_\_  
(1) untuk orang ramai dan sesapa sahaja yang ingin hadir  
(2) sempena sambutan Hari Kebangsaan Singapura 2019  
(3) secara percuma untuk semua yang hadir  
(4) untuk memkmati siaran langsung NDP
- Selapa yang berminat menyertai Peragaan 'Sing Singapore' harus \_\_\_\_\_  
(1) mendaftar tema "Negeraku, Singapura"  
(2) berusai di bawah 15 tahun  
(3) dianggopul sekurang-kurangnya 8 orang  
(4) mengesembahkan tiga buah lagu hari kebangsaan
- Sambutan Majulah-Singapura ini dianjurkan oleh \_\_\_\_\_  
(1) Syarikat Rakaman DreamDay  
(2) M2 Catering  
(3) Kolida Masyarakat Pasir Rits  
(4) Sekolah Seni Singapura
- Kamu mahu mengajik rakan kamu menghadiri sambutan Majulah Singapura bersama kamu untuk menonjolkan saron langsung NDP. Untuk moyokkan rakan kamu itu, kamu harus menonjolkan kepantasan dia foodoh yang dapat diraih daripada menghadiri acara sambutan itu.  
(1) Dapatkan informasi dalam borosr untuk melengkapkan pesanan ringkas di bawah

**Latihan 15**

**Arahan:** Pilih perkataan yang paling sesuai bagi setiap tempat kosong dalam petikan kerangin di bawah ini.

Tanga berelngah lagi, aku dan Zanna menuju ke pejabat pengetua sekolah. Kami meminta (1) \_\_\_\_\_ untuk masuk dan berjumpanya. Kami membentahunya tentang rancangan kami untuk mengutip derma daripada murid-murid untuk Cikgu Hannah. Suami Cikgu Hannah telah meninggal dunia (2) \_\_\_\_\_ satu kemalangan jalan raya beberapa hari yang lalu.

"Caderani kamu baik, usoha yang malak," kata Cikgu Adam, pengetua sekolah. Kata kutanya membenarkan kekuatan kepada kami. Kami berduka daripada sebuah kelas ke sebuah kelas. Pada mulanya, ada yang teragak-agak tetapi apabila kami menerangkan tujuan (4) \_\_\_\_\_ dan sebabnya, ramai yang menderma.

Wang sebanyak \$327 dari kutipan itu kami serahkan kepada Cikgu Hannah pada keesokan harinya. Semasa kami menyerahkan sampul surat yang berisi wang itu, aku lihat air mata (5) \_\_\_\_\_ di pipinya.

- (1) maaf
- (2) pendapat
- (3) izin
- (4) nasihat
- (5) mengumpul
- (1) dengan
- (2) kerana
- (3) sambil
- (4) dalam
- (5) bertukang
- (1) memungut
- (2) mengumpul
- (3) mengumpul
- (4) berjumpa
- (5) berbilang
- (1) berbilang
- (2) menitis
- (3) mengalir
- (4) berbilang

## Tamil Specimen Papers

Each book in this series contains 8 specimen papers. The specimen papers are written based on the various sections found in examination papers. These will help students to learn Tamil and prepare well for their school assessments and examinations.

தொடக்கநிலை 1  
தமிழ் தேர்வுத்தாள்கள்



Based on the latest Primary Tamil syllabus

- ✦ எட்டுத் தேர்வுத்தாள்கள் மாணவர்களின் பயிற்சிக்காக
- ✦ கல்வி அமைச்சின் புதிய பா.ததிட்டத்தின் அடிப்படையில் எழுதப்பட்டுள்ளன
- ✦ விவகடன் புகைத்தாள் இறுதியில் காணப்படும்

S. Vijay  
M.A. (Ed.), O.W.U., B.A. (Hons.), M.Phil., M.S.S.

ISBN: 9789811481215

தொடக்கநிலை 2  
தமிழ் தேர்வுத்தாள்கள்



Based on the latest Primary Tamil syllabus

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S. Vijay  
M.A. (Ed.), O.W.U., B.A. (Hons.), M.Phil., M.S.S.

ISBN: 9789811481208

தொடக்கநிலை 3  
தமிழ் தேர்வுத்தாள்கள்



Based on the latest Primary Tamil syllabus

- ✦ எட்டுத் தேர்வுத்தாள்கள் மாணவர்களின் பயிற்சிக்காக
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S. Vijay  
M.A. (Ed.), O.W.U., B.A. (Hons.), M.Phil., M.S.S.

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தொடக்கநிலை 4  
தமிழ் தேர்வுத்தாள்கள்



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- ✦ கல்வி அமைச்சின் புதிய பா.ததிட்டத்தின் அடிப்படையில் எழுதப்பட்டுள்ளன
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தொடக்கநிலை 5  
தமிழ் தேர்வுத்தாள்கள்



Based on the latest Primary Tamil syllabus

- ✦ எட்டுத் தேர்வுத்தாள்கள் மாணவர்களின் பயிற்சிக்காக
- ✦ கல்வி அமைச்சின் புதிய பா.ததிட்டத்தின் அடிப்படையில் எழுதப்பட்டுள்ளன
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தொடக்கநிலை 6  
தமிழ் தேர்வுத்தாள்கள்



Based on the latest Primary Tamil syllabus

- ✦ எட்டுத் தேர்வுத்தாள்கள் மாணவர்களின் பயிற்சிக்காக
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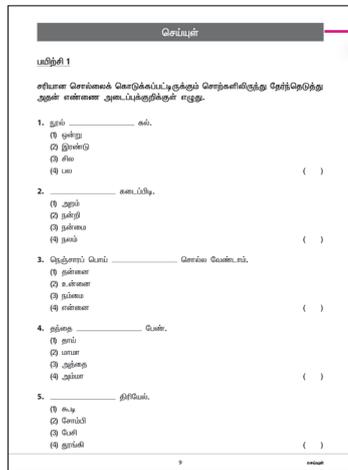
S. Vijay  
M.A. (Ed.), O.W.U., B.A. (Hons.), M.Phil., M.S.S.

ISBN: 9789811444814



# Tamil Topical Exercises

This series contains Tamil language exercises essential for every Tamil student. All exercises in each book are based on the respective Tamil language syllabus. The books are divided into sections on proverbs, semantics, phonetic distinction, adjective and prepositions. There are also test/exam papers at the end of each book that will prepare students well for their school assessments/exams.



## Topical Exercises

In targeting primary school students who want to master their Tamil language skills, this book consists of topical practices that target individual components of a typical test paper. These will help students master each topical component before moving to the next.

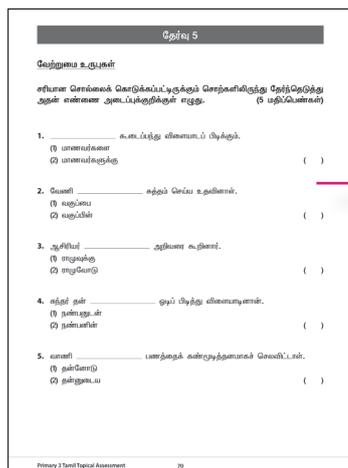
## Creative Exercises

Apart from the typical MCQ and open-ended questions, there are creative exercises that engage students in their mastering of the Tamil language. Interesting activities that go beyond MCQs and open-ended questions will keep students engrossed in the variety of exercises.

**பயிற்சி 8**

கீழ்க்கண்ட சொற்களை எழுவை காண்பிக்கும் பற்றி எழுது.

எழுவை	எழுவை	பற்றி
1. சிவந்தெழு	_____	_____
2. _____	உள்ளே	_____
3. _____	_____	தூள்
4. _____	பற்றி	_____
5. எழுதுவது	_____	_____
6. _____	_____	பற்றி
7. உட்கொடு	_____	_____
8. _____	_____	சிவந்தெழு
9. வினையாற்றிகள்	_____	_____
10. _____	ஆடும்	_____



## Exam Papers

In order to ensure that students have grasped the language at an examinable level, this book also consists of eight test papers to assess students' language skills. Each test paper contains all the components that have been practised before.

# ◀ Secondary Level

▶ English

▶ Mathematics

▶ Science

▶ Bahasa Melayu

▶ Humanities

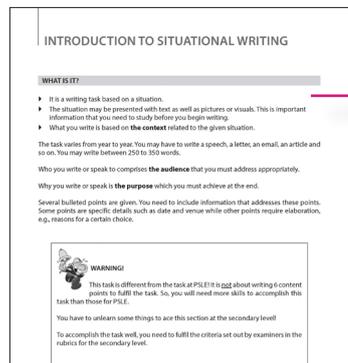
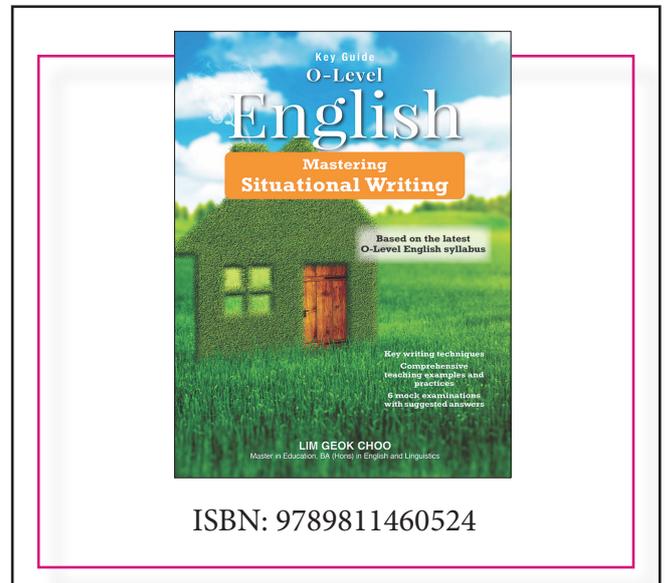
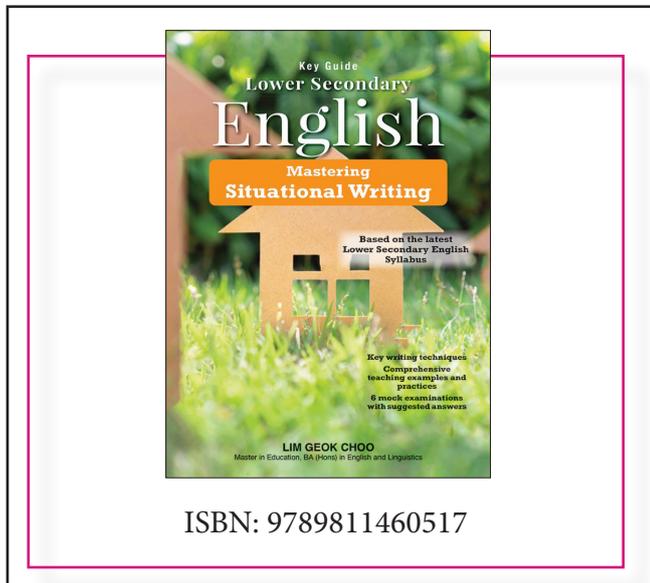
▶ Tamil

▶ Principles of  
Accounts

▶ IGCSE

# Mastering Situational Writing

This series provides students with a smooth transition from the situational/functional writing task at the PSLE level to the more demanding task of situational writing at the secondary level. It helps students do a comprehensive revision of the situational writing component in Paper 1 of the English Language examinations.

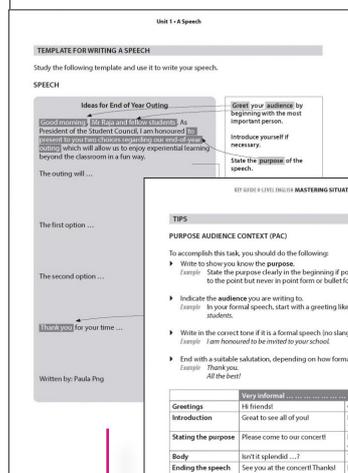
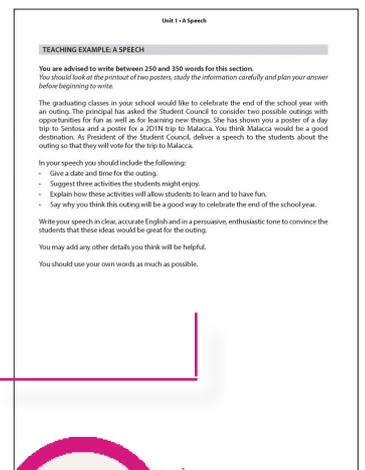


## Clear Explanations

Each topic is clearly defined to help students understand what skills are needed to earn marks.

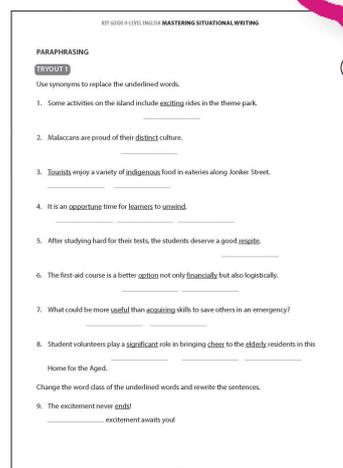
## Teaching Examples

An example of each type of situational writing task is shown.



## Templates & Tips

Templates and tips are provided to help students plan out each task.

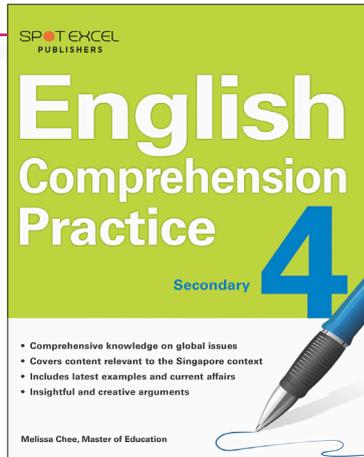


## Practice Tasks

Students can immediately apply what they have learnt from the teaching examples. Suggested answers are also provided for students to understand what is expected for each writing task.



# Comprehension Practice



ISBN: 9789811170959

This book focuses on Sections B and C (excluding the summary part) of a comprehension paper.

With passages on global issues and current affairs that bring insightful and creative arguments, this book aims to provide greater reading sources for students to have a better command of the English Language, and hence be able to better understand passages.

This book also includes a guide on identifying different types of questions and the literary and rhetorical devices of the English language.

## Guide

Different question types and literary devices are introduced with examples.

### About Comprehension Section B

Below are typical question types of the 'O' level syllabus. But be careful, some question types do overlap, especially in questions with parts.

#### Section B Question Types

Question Type	Example
<b>Analysis of the writer's intent</b>	In Paragraph 5, the narrator describes his excitement as 'thrilled'. Explain why the word 'thrilled' is effective in describing her emotions?  In Paragraphs 5 and 10, the woman tells Manuel that the fish 'ought to be thrown back.' What is the intended effect of this repetition?
<b>Direct/Literal</b>	Give three reasons from Paragraph 3 why the visitor had attention drawn to her, apart from the fact that she had arrived with an infant.
<b>Inference</b>	What does the phrase 'dreams that had lost my food and pleasant rest' in Paragraph 6 suggest about the narrator's view of his dream?
<b>Justification</b>	Explain how the language used in this paragraph conveys the control she had over her performance with supporting details.
<b>Identify key words or phrases</b>	Identify key words or phrases in the paragraph that supports the writer's intended effect and explain how in terms of context and connotations.

Literary device	Definition	Example
<b>Allegory</b>	A representation of an abstract meaning. Sometimes it can be a single word or phrase. Often, it's a symbolic narrative that has not only a literal meaning, but a larger one understood only after reading the entire passage/story.	Famine Queen by Edmund Spenser is a moral and religious allegory. In the story, the good characters are representatives of the various virtues, whereas the evil characters are representatives of the various vices.
<b>Alliteration</b>	Repeated consonant sounds at the beginning of words placed near each other in the same sentence. A somewhat looser definition is that it is the use of the same consonant in any part of adjacent words.	i) Fast and furious ii) We gatted the pony
<b>Allusion</b>	A brief reference to some person, historical event, work of art, Biblical, mythological situation or characters.	Chocolate is her Achilles' heel. In this manner, it means that chocolate is her weakness. Achilles in Greek mythology was thought to be invincible as his mother had dipped him in magical water when he was a baby. However, she had missed a spot, which was his heel as she had held him by the heel when she dipped him. Thus, his heel was his only weakness.

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Secondary 4 English Compe

viii Secondary 4 English Comprehension

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**Practice 1**

**Text**

The boy's shorts were faded, his feet barefoot. Carlos could see the patch of moist skin where from mosquito bites. The scales streaked with dirt lay in the gutter. The boy were dangling out over it.

A stud interrupted made one convulsive le pavement. The boy looked gutter.

Carlos let his thought it. It would be big ends in without breathing do accommodation in the cigarette and leaned as fishing.

A couple was appar seemed to have wander and portly, she was slim of weariness. "What a nasal drawl as she bent of the lines of washing on it."

"It's going to die if I. Do you think he wants it. He seemed on edge."

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**Section B - Narrative text**

**Questions**

1. What does the boy's appearance in Paragraph 1 tell you about his background?
2. Which phrase in Paragraph 2 shows the desperate attempts to survive?
3. Why do you think the boy tensed up?
4. In paragraph 5, the woman is said to have addressed Manuel more respectfully than she had used with the boy.
  - a. Why did the woman use a different tone of voice with Manuel?

4 Secondary 4 English Comprehension

**Practice 1**

**Text**

The depth of our intelligence hinges on our ability to transfer information from working memory, the scratch pad of consciousness, to long-term memory, the mind's filing cabinet. In moving information from long-term memory, we are that give richness to our thought to long-term memory also term memory has an almost only a relatively small amount term storage is fragile: A bit from our mind.

Imagine filling a bathtub in moving information from When we read a book, the which we can control by ve single-minded concentration information, thimbleful by r the rich associations essent. On the Net, we face many irf thimble overflows as we ru jumble of drops from differe. Psychologists refer to the info cognitive load. When the load is, we're unable to retain the memories. We can't retain ability to learn authors, and our

The Internet is an inte to accessible it. There's the p kinds of media coming at numerous studies—includ surveyed people, and even users of two academic data

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**Section C - Non-narrative text**

**Questions**

1. What is the difference between long term memory and working memory?
2. What happens when our cognitive load exceeds our mind's ability to process and store information?
3. In Paragraph 5, it is said that "Office workers often glance at their inboxes 30 to 40 times an hour." What is said about this?
4. Quote a phrase from Paragraph 6 that suggests that shifting our attention puts a mental strain on us?
5. Here is a part of a conversation between Ryan and Brianna. Ryan: We are better able to retain information from books than the Net. Brianna: Not the Net too brings us benefit.
  - i) Pick out two pieces of evidence from Paragraphs 2 and 3 that Ryan can use to explain his position.

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Secondary 4 English Comprehension 67

**Practice 1**

1. He came from a poor family and often faced hardships. (Under short and "hardship" suggest that the family is too poor to afford a new pair or afford a pair of shoes for him.) ("gambly" and "tweed lines suggest a hard life—one that definitely is not sheltered).
2. The phrase is "she had convulsive leap." (First line of paragraph 2) (A phrase is a group of words that expresses an idea).
3. He did not know what the tourists wanted from him since he did not understand the language they spoke, that he was wary of their intentions.
4. a. Judging Manuel's clothes, she concluded that he was worthy of more respect given to him. ("tucking in the creased-out lines said, the shoes").
5. She is a person who judges people based on their appearance. ("with a more respectful tone than she had used with the boy").
6. a. The woman is more concerned with the dying fish than the plight of the little boy. b. "Tourist" ignorance of the society they visit and its current affairs may prevent them from seeing the little situation and hence empathising with them. In this case, the woman's ignorance of the boy's poverty or the current plight in which the fishing village is being visited to make way for a new hotel prevented her from seeing the boy's poverty and hence empathising with him.
6. As the boy fished, Manuel may have deduced that he is from the fishing village which was being visited to make way for a new hotel and pitied him. He hoped to make the boy feel less uncomfortable and that he may always be.
7. His huge exterior appearance does not intimidate the woman as she is not afraid of him. ("Faded shoulders" suggests a lack of confidence). The woman clearly perceives compassion in their relationship through her "shuffling" her feet nervously behind her" and her "ignoring" him in the passage).
8. It emphasises her discomfort in seeing animals abused.
9. The woman has no regard for either Manuel or the boy.
10. It was the boy's alien way of thinking Manuel and expressing his gratefulness for his help in setting the fish, hence helping the financial situation.

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**Section B - Answer Key**

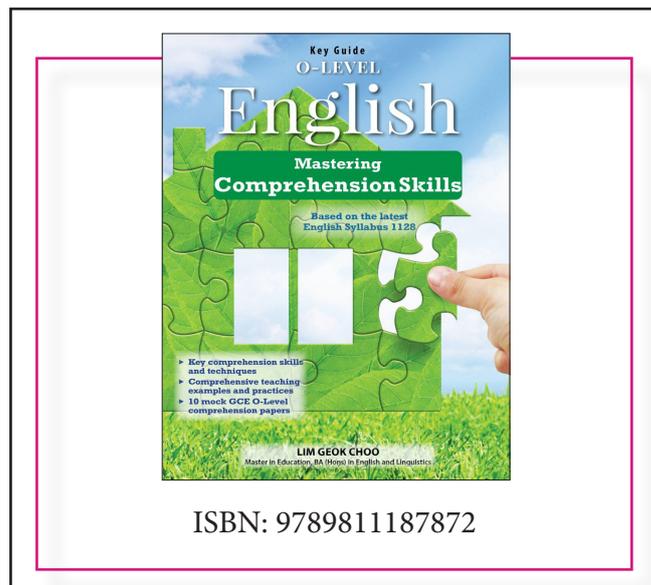
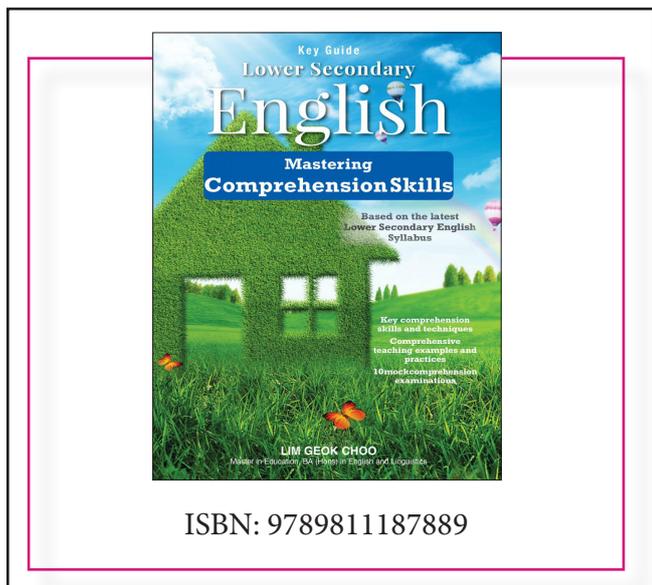
Secondary 4 English Comprehension 107

## Practices with Answers

10 practice texts are included for each section, and each practice comes with an elaborate answer key for self-evaluation.

## Mastering Comprehension Skills

This series helps students in their comprehensive revision of essential skills in all three sections of the comprehension component (Paper 2) of the English language examination. It is suitable for both class revision and self-revision at home.



### 1 TARGET READER QUESTION

**WHAT IS IT?**

- A visual text is written for an intended or target group of readers.
- This group could be the general public.
- This could also be a specific group of people.

The target reader question tests if you know who this target group is.

Some common examples of specific target groups include the following:

- Parents
- Students
- Teenagers
- Drivers
- Smokers
- Young couples
- Families with young children
- Tourists
- Pregnant women
- Gambling addicts
- Job-seekers
- Computer enthusiasts
- Sports groups such as cyclists, rock climbers, runners
- Information technology buffs
- Nature lovers
- Environmentalists

**HOW TO ANSWER THE TARGET READER QUESTION?**

1. Read the **headings and/or subheadings** for clues about the target reader.
2. Study the **pictures and information** that hint at the target reader.
3. Some visual texts may clearly state their target group of readers. Look for words that tell you this, e.g. **intended for ...**, **suitable for ...**, **for ...**, etc.

### Detailed Explanations

Explanations of each question type help students understand how to get the correct answers to earn marks.

### Examples

The examples come with answers and hints on how to answer the question effectively.

### Mock Exams

Apart from practice questions, there are also 10 full mock examination papers with answers provided.

**MOCK EXAM 1**

SECTION A  
Text 1

Home Our team Services Useful links

### Family Centre: Family Help

A website that helps to strengthen family ties, by the Family Centre.

Keys to Understanding your Parents  
Workshop Series 2

Through this series of workshops, Dr Charlene Lee will help you understand how important it is to build a strong parent-child relationship on the four keys to a better understanding of the adults in your life.

**About the Speaker**  
Dr Charlene Lee is a psychologist registered with the Family Counseling Council. She has been counselling families for over 10 years. She is the author of 'Habit of Happy Family'.

Committed to helping families grow in together  
Recipient of National Day Silver Award 2018 and National Day Gold Award 2019

**MOCK EXAMINATION 3**

SECTION C  
Text 3

The following text discusses the characteristics of mountain guides. Read the text carefully and answer Questions 14 to 16. (22 marks)

1. Mountain guides are supposedly among the most skilled climbers yet statistics show that many of them died in accidents that did not have to be fatal. The numbers are high, prompting an analysis of the personalities of risk takers. These people are supposed to have control of their environment and know how to respond in a crisis, but something went wrong. Importantly, what distinguishes the climbers who died from those who lived? Many climbers face perilous situations, but some make better decisions than others, despite the fact that they had similar training.
2. In a published report, one guide was leading a small expedition over a snow covered peak when an avalanche swept over them, leaving four members of the party fasted in snow. The guide did not sleep under the snow, got to the surface in about a minute. The other three members were under too much snow to dig their way out. Rather than try to search them himself, the guide chose to go down the mountain to seek help. He returned thirty minutes later, but it was too late. The climbers had frozen to death. If the guide had tried to uncover them, he may have saved their lives because there was ample time and he knew where to locate them. Other guides and climbers have experienced similar crises, but they survive and so do members of their expeditions.
3. Perhaps the most important distinction between the survivors and those who did not avert disaster is an ability to recognise their own emotions. A disability or deficiency in processing emotions, in psychological terms, is called alexithymia. Those who understand their emotions can recognise when they are afraid, relaxed or calm, and most importantly, they know their limits. Climbers who cannot identify their own feelings do not know when they are up against a challenge beyond their ability to overcome safely.
4. In addition to alexithymia, there is agnosia as well as strained relationships in many cases. Dangerous guides seek to impress with their daring feats. The more they build themselves up, the more likely they are to let others fall in jeopardy. Good guides do not need to boast about their skills. Dangerous guides also have a troubled family life. They have difficult relationships with parents or other family members. Alexithymic, these guides ignore the negative emotions caused by the strained relationship, developing emotional numbness. If they do not recognise anger, fear or sadness, they respond by taking risks. This is why emotional detachment is undesirable.

**EXAMPLE 1**

Who is the target reader of the flyer?

In conjunction with Anti-Smoking Week 2020

### Writing Competition for Secondary School Students

Every year, a variety of activities are conducted nationwide during Anti-Smoking Week to raise awareness of the harmful effects of smoking. The Writing Competition for Secondary School Students is one such activity. The competition offers participants the opportunity to express their personal opinions or share their experiences about the harmful effects of smoking.

Answer: The target reader is a secondary school student (who can write well).

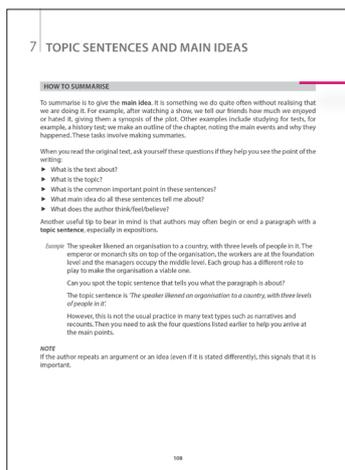
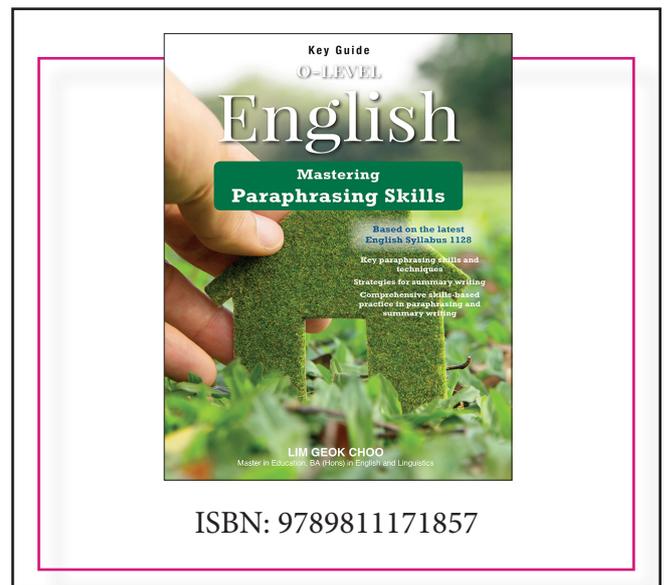
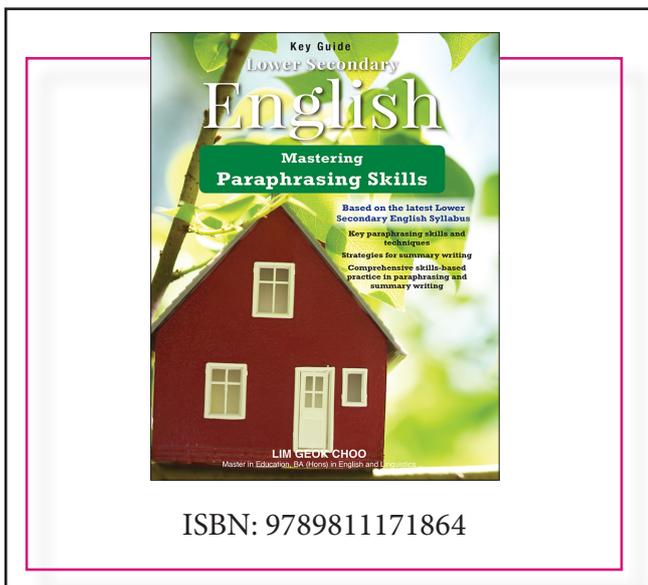
2027: The competition is for secondary school students.

## Mastering Paraphrasing Skills

These key guides help students do a comprehensive revision of skills in sections of the comprehension component of the English Language examinations, where paraphrasing is required.

The key skills for paraphrasing, answering literal and inferential questions, and summarising are explained, with examples and comprehensive warm-ups and exercises. The warm-ups help students practice their paraphrasing skills, and acquire new vocabulary and skills that are reinforced during the later exercises.

Each book also includes a full comprehension test based on the latest syllabus and format. Answers to all exercises are also provided for self-evaluation.

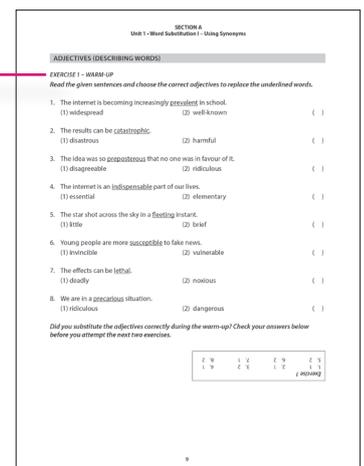


### How To

Each unit begins with a “How to” section, explaining the key skills, techniques and strategies through examples.

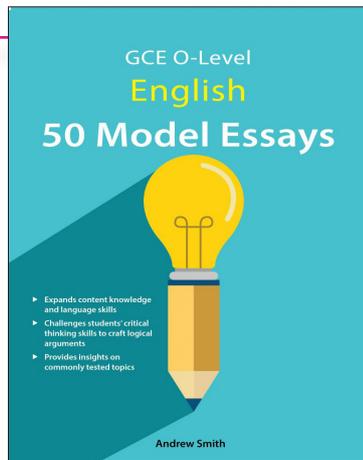
### Warm-Ups

Comprehensive warm-ups exercises with answers provided on the same page allow students to practise and review their answers. They will then be able to attempt the subsequent exercises with confidence.





# Model Essays



ISBN: 9789811413100

GCE O-Level English – 50 Model Essays is a collection of 50 model essays designed to present students with insights on commonly tested topics, including science, technology and the arts. This wide array of questions will equip students with the necessary skills to tackle essay writing at the secondary school level.

This book aims to prepare students for the O-Levels by providing ample examples of essay questions and answers that they can learn from. Students are encouraged to attempt the questions before referring to the respective model essays.

Contents	
Essay	Topic
1	Do you think it is wise for someone to pursue perfection?
2	"Travel can reduce prejudice: Do you agree with this statement?"
3	Passion is the prime consideration when one chooses a profession.
4	Would you rather live in the countryside or live in the city?
5	"Travel has made our lives more meaningful and interesting." What are your views?
6	"Technology has taken over from teachers: Is this a fair assessment of education today?"
7	Should humour be treated seriously?
8	Freedom is not a good thing. What are your views?
9	Discuss some of the advantages and disadvantages of social media.
10	"Sports has the ability to incite substantial change to the world." To what extent do you agree with this statement?
11	"Living in the city is isolating." Do you think that city life is lonely?
12	"It is impossible to attain true happiness." Do you agree?
13	"Young people lack the ability and knowledge to deal with the problems of the future." Discuss.
14	Do you think your society advocates diversity?
15	Write about a time you felt stressed and how you managed your emotions.
16	What are some of the most memorable times of your school life and how did they impact your growth as a person?
17	What is your idea of beauty? Describe some people, places and objects that you think are beautiful.
18	What are some of the problems and challenges you and other teenagers face? How do you overcome these difficulties?
19	Do you agree that it is important to read widely in today's modern society?

50 Model Essays

ESSAY 1

Topic: Do you think it is wise for someone to pursue perfection?

**MODEL ESSAY**

The idea of attaining perfection is perhaps what many would consider to be an endless pursuit. It has always been man's inherent desire to achieve perfection be it in their academic endeavours or careers. More often than not, perfection is not merely defined by personal standards but being substantially better than others who are competing against you. The pursuit of perfection is a grueling process for I believe that perfection can never truly be obtained. While the pursuit of perfection may motivate one to work hard to accomplish one's goals, being constantly obsessed with the idea of perfection disabled with oneself and this can be detrimental to one's well-being. I believe that it is not wise for someone to constantly achieve perfection.

Firstly, perfection would imply being the best at what an expectation that many people tend to set up for themselves. The on people to meet this seemingly unattainable goal and falling often has a huge blow on their self-esteem. Personally, in school often find ourselves studying not only for personal fulfillment but the fear of academic in Singapore is highly competitive and we and worth solely on their academic standing. This unrealistic hopes and dreams of youth who cannot fit into this ideal from results in a degradation of self-worth and confidence in their self-growth and development. Hence, these lofty and unattainable makes it unwise to want to achieve perfection.

Secondly, the relentless pursuit for perfection has also pushed means of accomplishing their form of perfection. When the pressure for one to cope, one may end up backing under great unlawful methods. The adoption of underhand techniques is sporting world where athletes use performance-enhancing drugs that extra advantage and improvement in performance against their opponents. There are multiple instances of such in something used performance-enhancing drugs to boost his advantage of immoral methods not only undermines the useless and complex that the meaning of sportsmanship. The desire for expense of one's morals, and thus it is not a wise goal.

GCE O-Level English

Be that as it may, the pursuit of perfection motivates people to put in their best effort and empowers individuals into accomplishing feats that are seemingly impossible to achieve. Personally, as a dancer, I would continuously practice to strengthen my technique on certain movements to make them smoother and improve the transitions between moves to craft a more seamless performance. The idea of people watching in awe at dance and acknowledging my efforts in my form of perfection. I believe that having an insatiable thirst of perfection is an extremely strong compelling force of motivation and pushes one to follow one's innate desire for greatness. Hence, it is undeniable that the pursuit of perfection is wise for it is an extremely effective mechanism for motivation.

In a nutshell, I believe it is paramount that one constantly strives to push oneself and become the best version of oneself. However, one should not get overly caught up on seeking perfection and should instead find the right balance between being motivated with the idea of perfection and setting unattainable goals, only then can one be truly contented with one's endeavours.

50 Model Essays

ESSAY 26

Topic: Examination results are prime focus in education. What are your views?

**MODEL ESSAY**

In this increasingly competitive society, there is a high premium placed on education and students believe that achieving stellar examination results is perhaps the only way for them to accomplish their goals and aspirations. There is a heavy emphasis on performing well academically and this leaves students feeling constantly stressed and pressured to do well for tests and examinations. Be that as it may, one has to have a good moral compass and exhibit values of integrity, being self-motivated and disciplined in order to truly strive in the real world. Hence, I do not agree that examination results are the top priority in education.

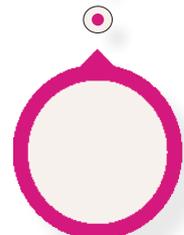
To begin, I believe that examination results should not be of top priority in education since the basic of education should be on empowering individuals with knowledge and capability to have a positive impact on society. Lifelong learning is paramount in ensuring that people are self-motivated and take the initiative to better their respective societies. Personally, my secondary school encourages us to discover our passions and the joy of learning by having career dialogues, excursions to different corporations in Singapore as well as allowing students to occasionally facilitate lessons in class. These experiences have taught me that while examination results are important, they should not always be the prime focus of education. It made me realise that as students, we have to go beyond what is taught in the classroom in order to truly realise our potential and make a positive impact on society in the future. Therefore, I do not agree that examination results are the prime focus in education.

Secondly, examination results used to judge one's intellectual capabilities and stream students accordingly can have negative effects on the self-confidence of students labelled as 'slow learners'. Students are segregated and categorised based on their learning abilities. For those who are regarded as less intelligent, they are limited to pre-determined boundaries and are given certain specific tailored educational programs that are intended for them. For instance in Singapore, children are made aware of their weaknesses and their limitations in certain areas. This can have detrimental effects on the mental state and self-esteem of most children. They may feel less worthy compared to others and lack the confidence to perform and reach their maximum potential. With this in mind, I believe that examination results should not be the top priority in education.

Be that as it may, I believe that other aspects of learning should be held in higher regard as oppose to their examination results. Students need to be taught to be morally upright in order to make rational decisions. For example, in most education systems around the world, there are moral education and civics lessons integrated into the curriculum to give students a

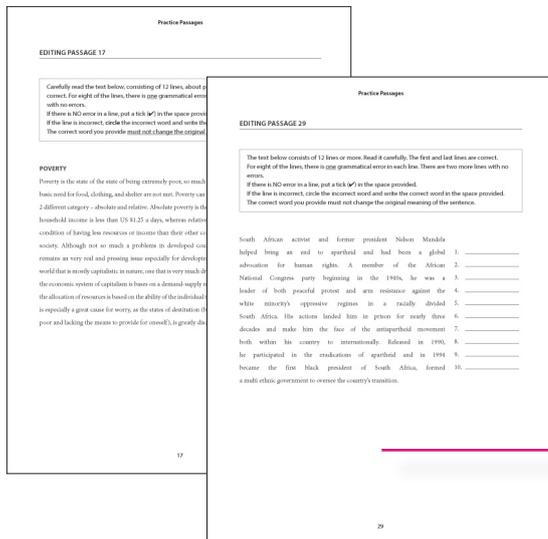
## Extensive Topics

Model essays cover a broad list of topics so that students are equipped with the skills to tackle questions on any subject.



## Editing Practice

The English Editing Practice series aims to develop both Express and Normal (Academic) students' editing skills, which require a good grasp of grammar in the English Language. Each book contains ample practices of varied text types for students to practise and strengthen their grammar knowledge. Answers are provided for self-evaluation and to learn from mistakes.

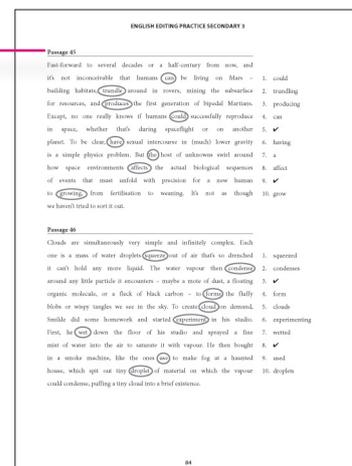


### Comprehensive Topics

Topics covered in practices are extensive to expose students to the various subject matter they may encounter in other aspects of their English language papers.

### Answers Provided

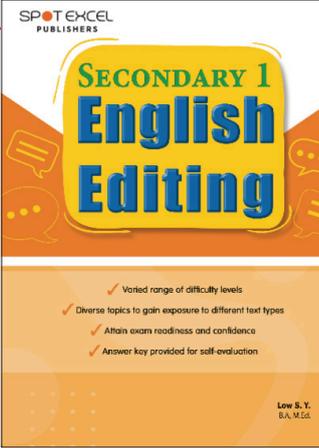
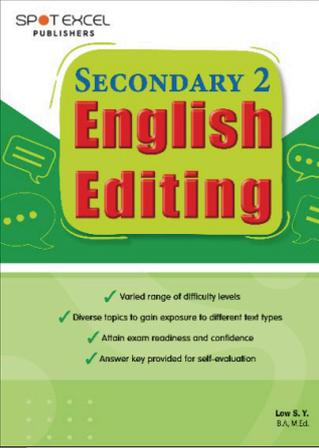
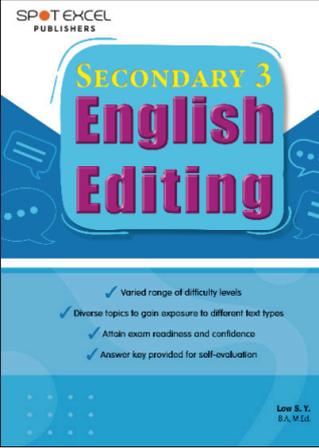
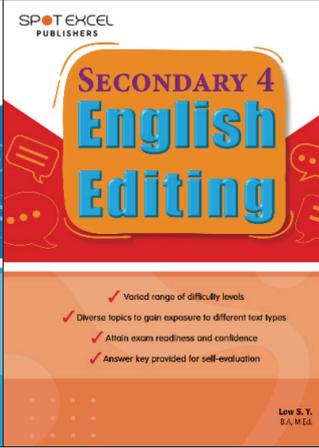
Answers for each practice are provided for students to check their own work against.

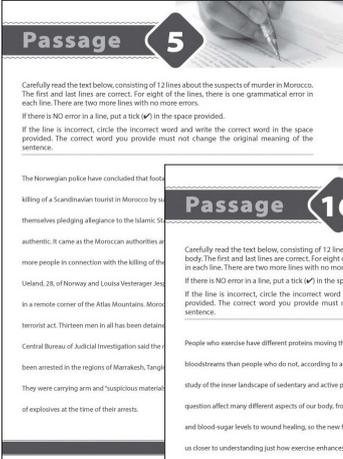
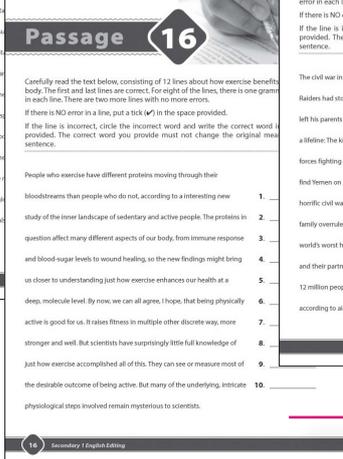
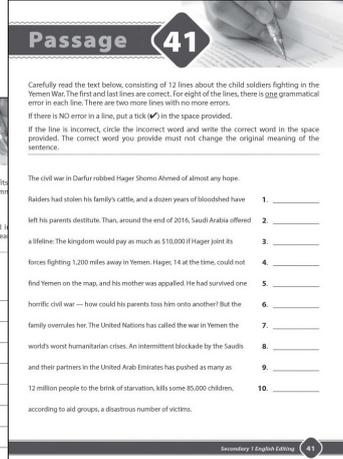


## English Editing

Each book in this English Editing series is a collection of 60 editing passages designed to provide students with sufficient practice to tackle the editing section.

It aims to prepare students for the O-Levels by providing ample exercises to allow students to master the necessary skills to ace the editing section.

 <p>✓ Varied range of difficulty levels ✓ Diverse topics to gain exposure to different text types ✓ Attain exam readiness and confidence ✓ Answer key provided for self-evaluation</p> <p>Low S. Y. B.A., M.Ed.</p>	 <p>✓ Varied range of difficulty levels ✓ Diverse topics to gain exposure to different text types ✓ Attain exam readiness and confidence ✓ Answer key provided for self-evaluation</p> <p>Low S. Y. B.A., M.Ed.</p>	 <p>✓ Varied range of difficulty levels ✓ Diverse topics to gain exposure to different text types ✓ Attain exam readiness and confidence ✓ Answer key provided for self-evaluation</p> <p>Low S. Y. B.A., M.Ed.</p>	 <p>✓ Varied range of difficulty levels ✓ Diverse topics to gain exposure to different text types ✓ Attain exam readiness and confidence ✓ Answer key provided for self-evaluation</p> <p>Low S. Y. B.A., M.Ed.</p>
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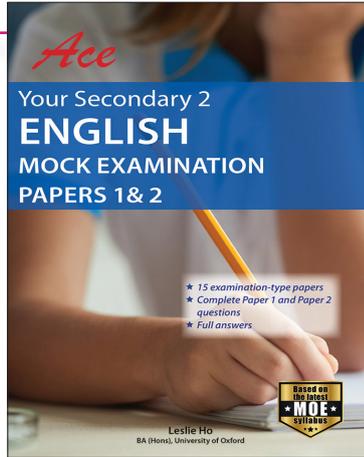
 <p><b>Passage 5</b></p> <p>Carefully read the text below, consisting of 12 lines about the suspects of murder in Morocco. The first and last lines are correct. For eight of the lines, there is one grammatical error in each line. There are two more lines with no more errors.</p> <p>If there is NO error in a line, put a tick (✓) in the space provided.</p> <p>If the line is incorrect, circle the incorrect word and write the correct word in the space provided. The correct word you provide must not change the original meaning of the sentence.</p> <p>The Norwegian police have concluded that foot-killing of a Scandinavian tourist in Morocco by themselves pledging allegiance to the Islamic State authentic. It came as the Moroccan authorities are more people in connection with the killing of the United, 28, of Norway and Louisa Vestreager, Jes in a remote corner of the Atlas Mountains. Moroccan terrorist act. Thirteen men in all has been detained. Central Bureau of Judicial Investigation said they been arrested in the regions of Manakhez, Tangi. They were carrying arm and 'suspicious material' of explosives at the time of their arrests.</p>	 <p><b>Passage 16</b></p> <p>Carefully read the text below, consisting of 12 lines about how exercise benefits body. The first and last lines are correct. For eight of the lines, there is one grammatical error in each line. There are two more lines with no more errors.</p> <p>If there is NO error in a line, put a tick (✓) in the space provided.</p> <p>If the line is incorrect, circle the incorrect word and write the correct word in the space provided. The correct word you provide must not change the original meaning of the sentence.</p> <p>People who exercise have different proteins moving through their bloodstream than people who do not, according to a interesting new study of the inner landscape of sedentary and active people. The proteins in question affect many different aspects of our body, from immune response and blood-sugar levels to wound healing, so the new findings might bring us closer to understanding just how exercise enhances our health at a deep, molecule level. By now, we can all agree, I hope, that being physically active is good for us. It raises fitness in multiple other discrete way, more stronger and well. But scientists have surprisingly little full knowledge of just how exercise accomplished all of this. They can see or measure most of the desirable outcome of being active. But many of the underlying, intricate physiological steps involved remain mysterious to scientists.</p>	 <p><b>Passage 41</b></p> <p>Carefully read the text below, consisting of 12 lines about the child soldiers fighting in the Yemen War. The first and last lines are correct. For eight of the lines, there is one grammatical error in each line. There are two more lines with no more errors.</p> <p>If there is NO error in a line, put a tick (✓) in the space provided.</p> <p>If the line is incorrect, circle the incorrect word and write the correct word in the space provided. The correct word you provide must not change the original meaning of the sentence.</p> <p>The civil war in Darfur robbed Hager Shomo Ahmed of almost any hope. Raiders had stolen his family's cattle, and a dozen years of bloodshed have left his parents destitute. Then, around the end of 2016, Saudi Arabia offered a lifeline: The kingdom would pay as much as \$10,000 if Hager joined its forces fighting 1,200 miles away in Yemen. Hager, 14 at the time, could not find Yemen on the map, and his mother was appalled. He had survived one horrific civil war — how could his parents toss him onto another? But the family overrules her. The United Nations has called the war in Yemen the world's worst humanitarian crisis. An intermittent blockade by the Saudis and their partners in the United Arab Emirates has pushed as many as 12 million people to the brink of starvation, kills some 85,000 children, according to aid groups, a disastrous number of victims.</p>
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### Extensive Practices

Passages of varied difficulty levels and diverse topics for students to gain exposure to editing different text types.

# Ace Your Sec 2 English



ISBN: 9789811801501

This book is a compilation of the latest practice questions in accordance with the latest syllabus issued by the Ministry of Education.

With contributions from teacher consultants who have decades of experience, the examination practices in this book aim to be a one-stop and comprehensive guide for English learning. The questions are challenging and specifically hand-picked for their value in teaching students important concepts and examination techniques.

## Mock Examination Papers

The book consists of 15 mock examination papers following the format of real examination papers. This allows students to be better prepared for the examinations.

### Mock Examination 1

#### PAPER 1 – WRITING

##### SECTION A (10 MARKS)

Carefully read the text below, consisting of 12 lines about hats. For eight of the lines, there is a grammatical error in each line.

If there is NO error in a line, put a W in the space provided.

If the line is incorrect, circle the incorrect word and write the correct word in the space provided.

The correct word you provide must not change the original meaning of the text.

Example: I arrived to my destination at 2 p.m.

My mother always wears sensible clothes.

History, the study of past events, is of great importance. It gives us insights into tragic disasters of the past, helps us to prevent a repeat on such incidents, allows us to study the successes and failures of the past, we are able to learn from our mistakes. Through the study of history, world leaders of today understand the importance of diplomacy. They engage in dialogue with other world leaders to negotiate peace settlements in order to prevent wars from happening. Given the importance in history, it is sad to see the subject devalued by society. This is especially so in the case of history also develop our critical thinking skills, and mental faculties. Such thinking skills are important for many areas of life.

2

### Mock Examination 1

##### SECTION B (30 MARKS)

You are advised to write between 250 and 350 words for this section.

You should look at the poster on the Back-to-School project, study the information carefully and plan your answer before beginning to write.

The Back-to-School project is a community project that aims to:

- Raise funds to help poor, needy or homeless children.
- Help to alleviate the financial burden on the families of these less fortunate children to have an education.

The project was launched by the non-profit organisation WeCare to raise funds. You are passionate about the project and you are invited to participate in the Flag Days.

Using the relevant information in the poster, write a speech that includes:

- Three reasons why you would like your school to participate in the project.
- How the project will benefit the underprivileged.
- What your schoolmates will learn from the project.

Write your speech in clear, accurate English and in a style appropriate to the occasion.

You should use your own words as much as possible.

3

### MOCK EXAMINATION PAPERS 1 & 2

## Raise funds for needy schoolchildren!

### Every child deserves an equal opportunity.

We organise monthly fundraising activities to raise funds for schoolchildren who cannot afford basic necessities such as textbooks and school supplies.

Flag Days take place on the first day of every month and all members of the public are welcome to participate or donate.

Visit [www.wecare.org](http://www.wecare.org) for more details.



### Back-to-School project

#### SIGN UP

Sign up for our next Flag Day through any of the following ways:

- Calling our hotline: 6476 2975
- Sending an email to [backtoschool@wecare.com](mailto:backtoschool@wecare.com)
- Leaving us a message on our Facebook page

#### Meeting points

Meet our representatives at the following MRT stations on the first day of each month to collect your donation boxes, and your Flag Day badges:

- Bugs MRT Station, Bishan MRT Station, Jurong East MRT Station, Chongmin MRT Station

Timing and other details will be provided when you sign up.

#### Benefits of participating in our Flag Days

- The funds that you raise will go a long way towards helping less fortunate children afford their school fees, school textbooks and their school stationery.
- Without your participation, some of these children may be at a disadvantage in school despite their willingness to learn.
- Some of the children may be very grateful towards you and write personal thank you notes to show their gratitude!
- For those who participate often, you may get a Certificate of Participation and you can include it in your portfolio.

4

## Full Answers

Help students to discover weaknesses in their answering techniques which they may not be aware of.

### ANSWERS

#### Mock Examination 1

##### Paper 1

##### Section A

History, the study of past events, is of great importance. It gives us insights into tragic disasters of the past, helps us to prevent a repeat on such incidents, allows us to study the successes and failures of the past, we are able to learn from our mistakes. Through the study of history, world leaders of today understand the importance of diplomacy. They engage in dialogue with other world leaders to negotiate peace settlements in order to prevent wars from happening. Given the importance in history, it is sad to see the subject devalued by society. This is especially so in the case of history also develop our critical thinking skills, and mental faculties. Such thinking skills are important for many areas of life.

##### Paper 2

- The purpose of the poster is to recruit people to work at Pando Restaurant.
- It suggests that people at Pando Restaurant care about and support their employees just how they would take care of and support their own family.
- It shows Pando Restaurant employees smiling and enjoying themselves while working, suggesting a positive work environment.
- The phrase is 'our legendary dishes'.
- Seib's would carve a small opening at the head of the goat, remove the seeds, put in the leaves and take it and then place the outside of the goat's head.
- It means an antique / nouven / knock knock / baric / a baric / novelty shop (1m for any 1 ans)
- It means to stand nailed / fixed (1) in the spot for a long time (1).
- He gave a disgusted look because he could not accept that fact that a male child (1) of his spent his time on such useless (1) hobbies.
- Seib's was indulging in a hobby (1) that is more commonly associated with females (1).
- He thought that boys with such hobbies had no future.
- She felt that she had failed (1) to fulfill her role as a mother in teaching her son (1).
- It was because Seib's mother felt extremely embarrassed (1) and humiliated (1).
- Seib's father might scold Seib (1) and force him to throw away his goards (1).

14. Paragraph 2: neutral  
Paragraph 3: unperturbed  
Paragraph 4: proud  
Paragraph 6: frightened

212

##### ANSWERS

- The slope was filled with only sand (1), some lonely plants of wild flowers and a few cactus plants (1).
  - A child learns instinctively (1) about the world around him by using his senses to draw conclusions (1) and then confirming these conclusions through experiments (1).
  - They help children discover how objects in the natural world behave (1) and allow them to use their imagination (1).
  - (a) Lisa playing freely with a baby can help him/her overcome anxiety and insecurity.  
(b) Insecure children will become too dependent (1) and afraid to make choices on his/her own (1).
19. Points:
- provide a variety of natural objects to play with
  - let children discover how natural objects behave
  - encourage them to use their imagination
  - play with their children
  - help them overcome anxiety and insecurity
  - give them confidence through games that involve physical movement
  - encourage their child to play with teddy bears or toys to learn to interact with others
  - refrain from dismissing or controlling a child or the way he/she plays
  - give approval to children in order to encourage them
  - make suggestions to promote learning

##### Mock Examination 2

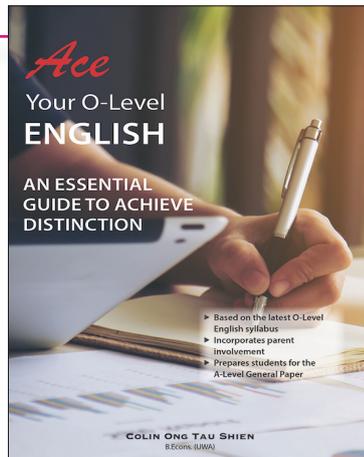
##### Paper 1

##### Section A

Hamsters are often regarded as 'starter' pets for children. Such a perception is probably erroneous. Hamsters are extremely small and fragile creatures and if not treated with proper care and restraint, can easily suffer bodily harm. Hamsters are also rather shy and solitary creatures by nature, which means they may not be the ideal pet for companionship. As hamsters are naturally prey, they tend to spend most of their time in hiding and are circulary active primarily during twilight hours when predators will not normally be present. Therefore, they may not be as good a pet choice as other animals such as cats or dogs. Some parents buy hamsters for cats their children to teach them how to be responsible and care for their pets. Unfortunately, this often fails and many of these hamsters end up neglected. Some of these hamsters do not survive.

213

## Ace Your O-Level English



ISBN: 9789811460531

The Ace Your O-Level English: An Essential Guide to Achieve Distinction book aims to act as a catalyst to help students ace their O-Level English exams without stress and help them become more globally-aware.

There are ample opportunities for parents to add value to their child's journey in O-Level English. This book also prepares students for the A-Level General Paper and supports the flipped classroom learning concept.

### Contents

Unit 1	Punctuation Recap	1
Unit 2	Books for Discussion	3
Unit 3	Quotation Analysis	9
Unit 4	Speech Analysis	19
Unit 5	Comprehension Passages	29
Unit 6	Further Readings to Review	37
Unit 7	Editing Exercises	43
Unit 8	Visual Practice	54
Unit 9	Visual Stimulus Practice	58
Unit 10	Parent's Zone	72
Unit 11	Discuss Different Scenarios	84
	Suggested Answers	104

### Wide Range of Content

The book covers key skillsets required to achieve distinction in the O-Level English exams.

### UNIT 2 Books for Discussion

Reading builds mental stamina and helps the student focus when attempting the reading comprehension component of the exam. The books in this section can be borrowed from most libraries.

#### Book 1

5000-1, the Leicester City story: How we beat the odds to become the Premier League Champions  
-Tanner, Rob

1. Describe 3 interesting parts of this book.

---



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2. What do you think Singaporeans can learn from this book?

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### Books for Discussion

Various books are recommended for reading, to build up students' reading comprehension. Questions are also posted for each book to test their understanding of the contents.

### Supplementary Activity

Step 1 Collect your own book reviews.

Step 2 Create a book review site like the one below.



**Pointer** The rule of three is a writing principle that suggests that a trio of events or characters is more harmonious, satisfying, or more effective than other numbers in executing a story and engaging a reader.

**Note** Listening and watching these videos will help prepare the student for oral and listening comprehension.

#### Recommended videos

BBC videos:

- <https://www.youtube.com/watch?v=3Z2g4e>
- <https://www.youtube.com/watch?v=3Z2g4e>
- <https://www.youtube.com/watch?v=3Z2g4e>
- <https://www.youtube.com/watch?v=3Z2g4e>
- <https://www.youtube.com/watch?v=3Z2g4e>

**Pointer** The poverty gap index, sometimes referred to as the poverty gap ratio or PG index, is defined as an average of the ratio of the poverty gap to the poverty line.

### Flipped Classroom

The flipped classroom learning concept is incorporated throughout the book, such as this supplementary activity example of creating a book review site.

### Parent's Involvement

Various activities are included in the Parent's Zone unit that encourage parents to work with their children to improve results.

### UNIT 10 Parent's Zone

In this section, parents are encouraged to work with their children to improve results. In some activities, the children will get an insight into their parents' work.

#### Activity 1

Locate metaphors from here:  
<http://www.enrichmentforanyblog.com/famous-metaphors>

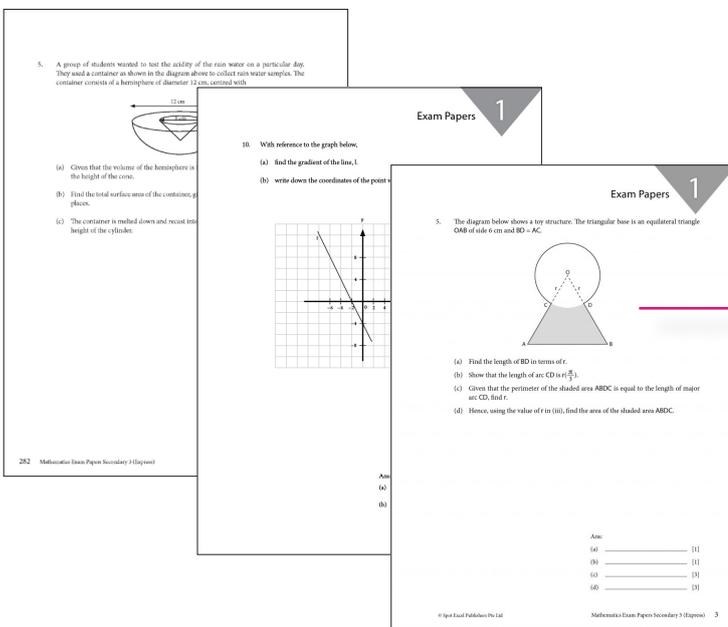
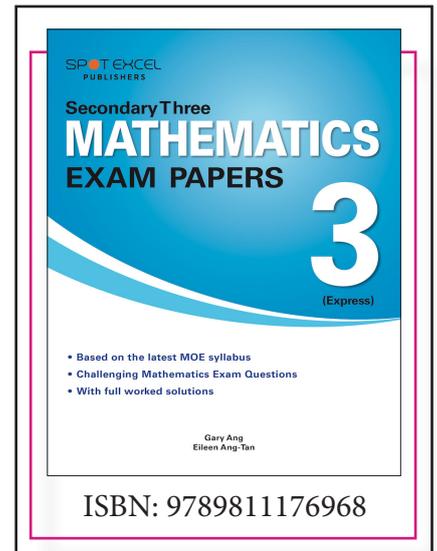
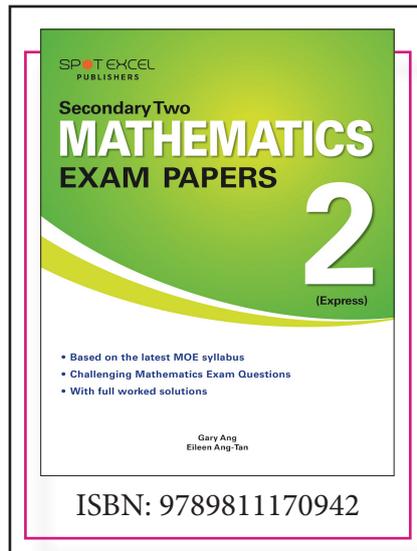
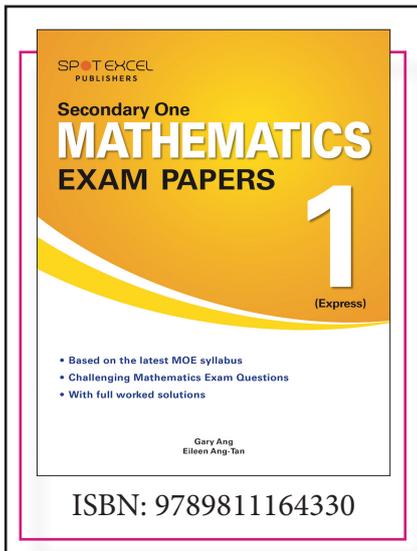
- Step 1** Select metaphors that motivate or describe a particular sentiment.  
**Step 2** Get cue cards and print each chosen metaphor on different cards.  
**Step 3** Pin them up and create a table of reference.

Here are some to get you going:

- "The Big Bang" — Fred Hoyle
- "All the world's a stage, and all the men and women merely players. They have their exits and their entrances." — William Shakespeare
- "Art washes away from the soul the dust of everyday life." — Pablo Picasso
- "All religions, arts and sciences are branches of the same tree." — Albert Einstein
- "Chaos is a friend of mine." — Bob Dylan
- "All our words are but crumbs that fall down from the feast of the mind." — Khalil Gibran
- "If you want a love message to be heard, it has got to be sent out. To keep a lamp burning, we have to keep putting oil in it." — Mother Teresa

## Mathematics Exam Papers

The transition from primary mathematics to secondary mathematics may not be easy for some students. The transition to using equations, symbols, and negative numbers from solving problems using models can all add up to make mathematics difficult and not as enjoyable. Modelled after top schools' examinations, this series aims to provide students with more examination-styled questions so that they can further hone their skills to perfection. It is hoped that this series will help students become more confident and competent in their mathematics.



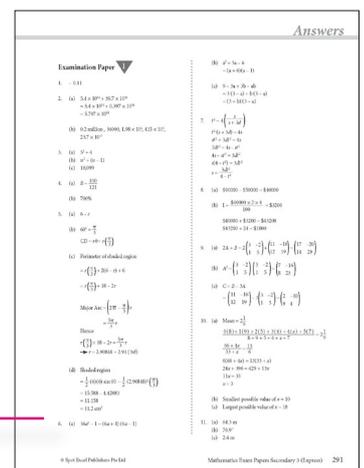
### Challenging Problems

This series includes questions and problems that are more challenging to increase students' exposure to different types of questions.



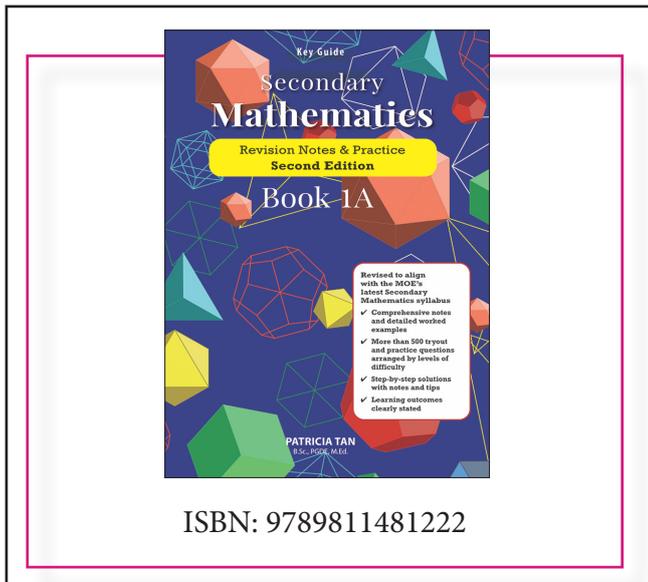
### Answers Provided

Full worked solutions are provided so that students or parents can carry out self-checking.

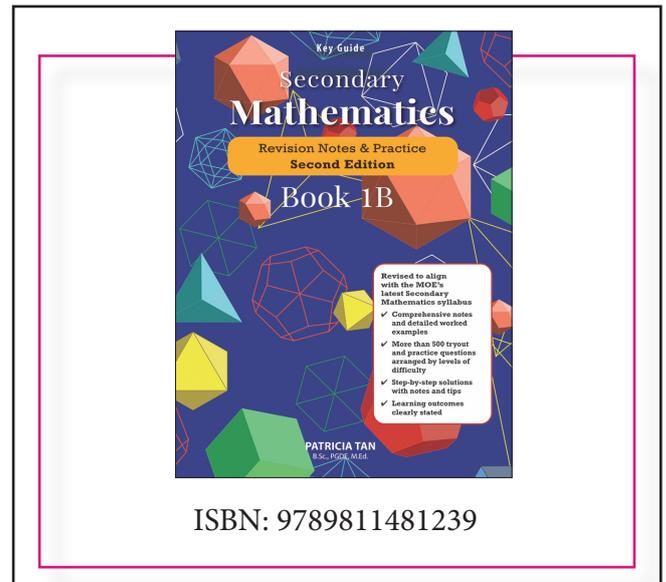


## Revision Notes & Practice

Key Guide: Secondary Mathematics – Revision Notes & Practice is a two-volume guide (Books 1A and 1B) designed specifically for students who self-study. This Second Edition is revised to align with the latest Secondary Mathematics syllabus issued by the Ministry of Education, Singapore. A comprehensive set of notes, worked examples and practice questions with complete solutions are presented to help students better understand the fundamentals in mathematics, learn to manipulate mathematical objects as well as revise in a more effective and efficient manner.



ISBN: 9789811481222



ISBN: 9789811481239

### Learning Outcomes

Help students focus on the key learning concepts of each topic.

### Tips & Notes

These useful bubbles highlight manipulations, strategies and common pitfalls that students may make in the course of their learning.

### Worked Examples

Illustrate mathematical concepts presented and help students see how mathematical concepts are applied.

### Notes

Explains concepts and consolidates learning.

### Try it Out!

The questions in this section are designed to dipstick and reinforce learning immediately after a concept, sub-topic or skill.

3 APPROXIMATION AND ESTIMATION

**LEARNING OUTCOMES**

- Understand the concept of significant figures.
- Round off numbers to a specified number of decimal places and significant figures.
- Apply estimation in calculations when working on practical problems.
- Understand the concepts of truncation and rounding errors and how to minimise them.

**3.1 APPROXIMATION**

1. When the exact value is not necessary, we use approximation to round off a number to a desired level of accuracy.

2. The desired level of accuracy can be denoted by

- a specified place value.
- a specified decimal place.
- a specified number of significant figures.

3. **Steps for Rounding off to a Specified Place Value**

Step	Specified place value	Worked example 1a	Worked example 1b
1	Look at the digit just to the right of the specified place digit.	Round off 236 184 to the nearest 1000. Place digit is '6' (for nearest 1000). Digit to right is '4', which is less than 5.	Round off 134 269 to the nearest 100. Place digit is '2' (for nearest 100). Digit to right is '6', which is more than 5.
2	If that digit is less than 5, do not change the place digit but change all digits to the right of the place digit to zero.	Keep '6', change '184' to zeros.	Add one to the place digit '2', change '69' to zeros.
3	Write down the degree of accuracy in your final answer.	236 184 ≈ 236 000 (correct to nearest 1000)	134 269 ≈ 134 300 (correct to the nearest 100)

91

KEY GUIDE SECONDARY MATHEMATICS BOOK 1A SECOND EDITION

**Worked Example 1**

Use prime factorisation to find the square root

7056 = 2<sup>4</sup> × 3<sup>2</sup> × 7<sup>2</sup>

$$\sqrt{7056} = \sqrt{2^4 \times 3^2 \times 7^2}$$

$$= 2^2 \times 3 \times 7$$

$$= 4 \times 21$$

$$= 84$$

**Try It Out 1!**

Find the square root of (a) 676 and (b) 99 225.

For similar type of questions, please go to Questions 10–13 in Practice Time.

**Cube and Cube Roots**

- When a number is multiplied by itself three times, the product is called the **cube** of the number, and is denoted by  $n \times n \times n$  or  $n^3$ .

**Examples**  $2^3 = 2 \times 2 \times 2 = 8$ . i.e.  $2^3 = 8$

- Conversely, the **cube root** of  $n$ ,  $n$ , is denoted by  $\sqrt[3]{n}$  or  $n^{1/3}$ .

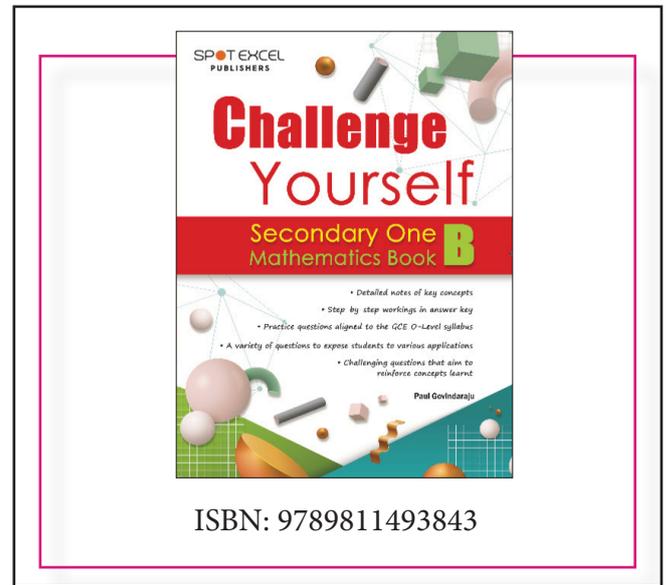
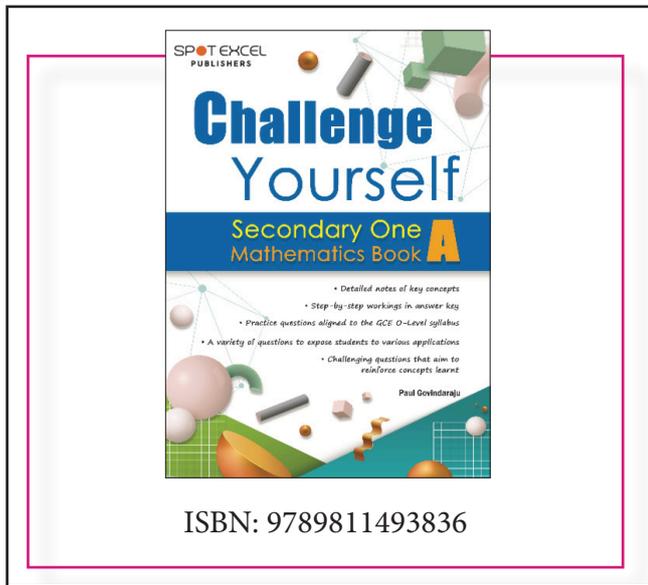
We say that 2 is the cube root of 8, i.e.  $\sqrt[3]{8} = 2$ .

4



## Challenge Yourself

This series of Challenge Yourself Mathematics books contains detailed notes of key concepts and a variety of practice questions aligned to the GCE O-Level syllabus to expose students to various applications. The questions are challenging and aim to reinforce concepts learnt. Step-by-step workings are also provided in the answer key for self-evaluation.



**CHAPTER 1**  
**PRIMES, FACTORS AND MULTIPLES**

**Big Ideas** Measurement and Notations

**Learning Outcomes**

No.	Learning Objectives	Tick
1	Recognise factors, and multiples of a number	
2	Recognise prime numbers	
3	Express a composite number as a product of its prime numbers	
4	Express a number in index notation	
5	Find the highest common factor (HCF) and lowest common multiple (LCM) of a group of numbers by using prime factorisation.	
6	Evaluate squares, cubes and square root and cube roots using prime factorisation.	

**1.1 Factors**  
A number may be made by multiplying two whole numbers together. The numbers that are multiplied together are called **factors** of the final number.

**Example 1**  
The number 24 can be expressed as a product of 2 whole numbers as follows:  
 $3 \times 24 = 24$   
 $2 \times 12 = 24$   
 $3 \times 8 = 24$   
 $4 \times 6 = 24$   
We say 1, 2, 3, 4, 6, 8, 12 and 24 are factors of 24.

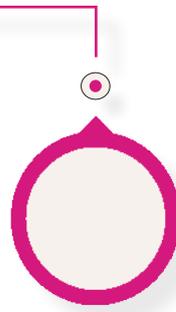
**Example 2**  
The number 27 can be expressed as a product of 2 whole numbers as follows:  
 $3 \times 27 = 27$   
 $3 \times 9 = 27$   
We say 1, 3, 9 and 27 are factors of 27.

The **common factors** of two numbers are the factors that are found in both the numbers.  
Step 1 List the factors of the two numbers.  
Step 2 Identify common numbers as factors of both numbers.

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### Learning Outcomes

A checklist of learning outcomes is included at the start of each chapter for students to track their learning progress.



**1 - Primes, Factors & Multiples**

**Method 2: By ladder method**

30	75	Ladder method for HCF
15	25	Step 1 Divide the numbers by a factor common to both numbers.
5	5	Step 2 Continue until there are no common factors.
		Step 3 Write the HCF as a product of the divisors.

Highest common factor of 30 and 75 =  $3 \times 5 = 15$

**Method 3: Using index notation**

$30 = 2 \times 3 \times 5$   
 $75 = 3 \times 5 \times 5$

1. List the prime factorization of each number in index notation.  
2. Pick the common factors.  
3. Multiply the lowest power of each prime factorization.

HCF =  $3 \times 5 = 15$

The highest common factor of 30 and 75 is 15.

**1.7 Lowest Common Multiple (LCM)**  
The smallest common multiple of a group of numbers is called the lowest common multiple (LCM) of the given numbers. There are 3 ways to find LCM.  
• Method 1: By listing all factors.  
• Method 2: By ladder method (preferred method).  
• Method 3: Using index notation (unpreferred method).

**Example 17**  
Find the lowest common multiple of 24 and 36.

**Method 1: By listing all factors**  
Multiples of 24 are: 24, 48, 72, 96, 120, 144, 168, 192, 216, ...  
Multiples of 36 are: 36, 72, 108, 144, 180, 216, ...  
The common multiples of 24 and 36 are 72, 144, 216, ...  
The lowest common multiple of 24 and 36 is 72.

**Method 2: By ladder method**

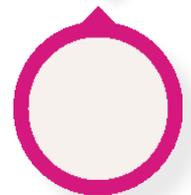
24	36	Ladder method for LCM
12	18	Step 1 Divide the numbers by a factor common to both numbers.
6	9	Step 2 If there are no more common factors, divide by one of the remaining quotients (3 or 3).
2	3	Step 3 If a number is not divisible, carry it down to next line.
1	1	Step 4 Continue Step 2 & 3 until only 1 remains.
		Step 5 To obtain LCM, multiply all the divisors.

The lowest common multiple of 24 and 36 =  $2 \times 2 \times 3 \times 3 \times 3 = 72$

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### Detailed Examples

Examples with various methods and clear step-by-step guides are provided.



**Practice Questions**

1. Find the common factors of the following.  
(a) 15 and 20  
Ans: \_\_\_\_\_  
(b) 20 and 24  
Ans: \_\_\_\_\_  
(c) 25 and 40  
Ans: \_\_\_\_\_  
(d) 30 and 50  
Ans: \_\_\_\_\_  
(e) 12, 18 and 42  
Ans: \_\_\_\_\_  
(f) 24, 32 and 36  
Ans: \_\_\_\_\_

2. Find the first 3 common multiples of the following.  
(a) 4 and 6  
Ans: \_\_\_\_\_  
(b) 15 and 20  
Ans: \_\_\_\_\_  
(c) 9 and 12  
Ans: \_\_\_\_\_  
(d) 30 and 40  
Ans: \_\_\_\_\_  
(e) 4, 8 and 16  
Ans: \_\_\_\_\_  
(f) 5, 10 and 30  
Ans: \_\_\_\_\_

Challenge Yourself Secondary One Mathematics Book A

3. From the numbers 1, 2, 3, 4, 5, 6, 7, 8 and 9, find the sum of the prime numbers.  
Ans: \_\_\_\_\_

4. List all the prime numbers between 20 and 35.  
Ans: \_\_\_\_\_

5. Express 38 as a sum of two different prime numbers.  
Ans: \_\_\_\_\_

6. List all the prime numbers from the following list:  $\frac{1}{2}, -2, 6, 1, 2, \sqrt{2}, 7$   
Ans: \_\_\_\_\_

7. Express each of the following numbers as a product of its prime factors in index notation.  
(a) 50  
Ans: \_\_\_\_\_  
(b) 42  
Ans: \_\_\_\_\_  
(c) 120  
Ans: \_\_\_\_\_  
(d) 140  
Ans: \_\_\_\_\_  
(e) 300  
Ans: \_\_\_\_\_  
(f) 4500  
Ans: \_\_\_\_\_

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### Practice Questions

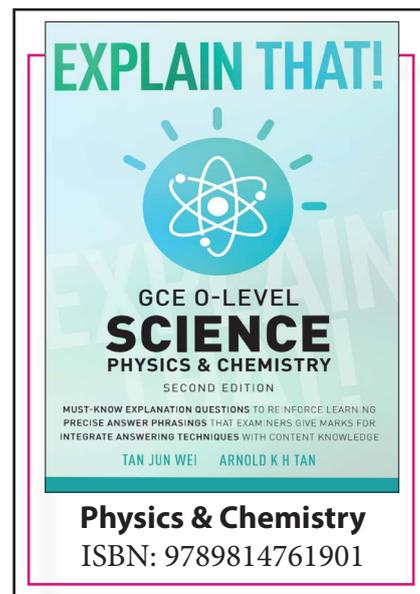
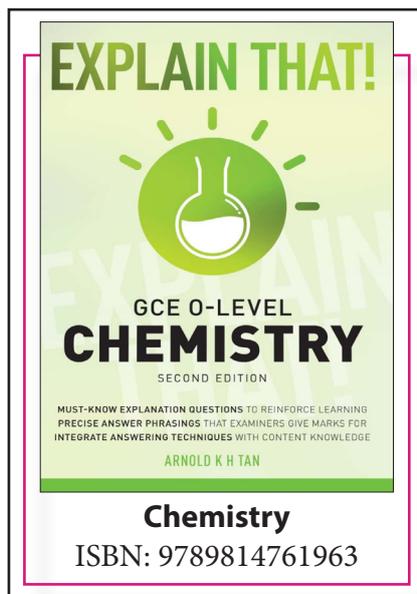
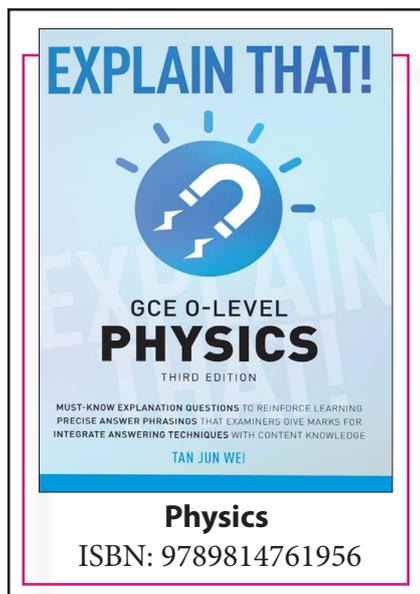
Multiple practice questions for each concept to reinforce what was learnt.



## Explain That!

Explain That! is a series of comprehensive guides designed to help students master the skill of answering qualitative questions. Each title comprises a well-curated selection of questions which cover a variety of key ideas and concepts. These books train students to construct their explanations using examiner-style phrasing, giving them greater confidence before and during examinations.

The Explain That! series of books contains questions that have been summarised, distilled and refined from over hundreds of exam papers, spanning different schools, and national and international examinations.



105 The following diagram shows the design of a disposable coffee cup. Using ideas about pressure, explain why the design includes an air hole on the lid of the coffee cup.

When a person drinks from the drinking hole of a coffee cup without an air hole, the pressure of the air above the coffee decreases. Since the atmospheric pressure is greater than the pressure of air in the cup, the flow of coffee out of the drinking hole reduces to a trickle.

The air hole on the lid allows the surrounding air to enter the cup, keeping the air above the coffee at atmospheric pressure. This ensures that the coffee can flow out from the drinking hole into the person's mouth.

107 Explain how a change in pressure enables a person to suck liquids out of a cup using a straw.

When a person sucks air out of a straw, the pressure inside the straw decreases. Atmospheric pressure pushes the liquid from outside the straw into the straw column, followed by the person's mouth.

Pressure

106 What are the metals which can be extracted using coke (carbon powder)?

All metals below carbon (zinc, iron, tin and lead) can be extracted by heating a mixture of a metal oxide with coke over a strong heat source, in the absence of oxygen.

$$\text{ZnO (s)} + \text{C (s)} \rightarrow \text{Zn (s)} + \text{CO (g)}$$

$$\text{PbO (s)} + \text{C (s)} \rightarrow \text{Pb (s)} + \text{CO (g)}$$

Any oxygen present will oxidise the metals formed. The more reactive the metal, the more stable the metal oxide, hence a stronger heat source is required. A constant stream of nitrogen or a noble gas can be used to provide an inert environment.

4.5 Iron

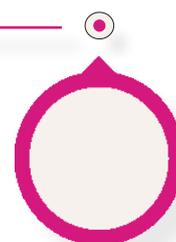
108 Apart from iron, which other element is always present in steel alloys? Explain why this is so.

Carbon is present in all steel alloys because there is always residual carbon during the manufacture of iron in the blast furnace.

Iron 85

### Informative Diagrams

Detailed diagrams are provided to promote clear understanding of concepts.



### Range of Questions

Each topic contains a wide range of questions to help explain concepts, and equip students with skills to answer them.

#### 2.3 Ionic, Covalent and Metallic Bonding

105 Explain why the melting point of magnesium oxide is twice that of sodium chloride even though they have the same crystal lattice structure.

The charges on the magnesium and oxide ions are higher than the charges on the sodium and chloride ions. Magnesium oxide has a stronger ionic bond which requires more energy to overcome.

106 Why do ionic compounds conduct electricity only when molten or dissolved in water?

In a solid or lattice structure, ions are held in their fixed positions by strong electrostatic forces between oppositely charged ions. However, ions can move when molten or when dissolved in water to conduct electricity.

107 What is the difference between valence electrons and the valency of an element?

Valence electrons (or outermost shell electrons) refer to the electrons found in the outermost shell of each element, whereas valency is the number of electrons which an element can gain or lose from a hydrogen atom. For example, a sodium atom has 1 valence electron and a valency of 1, since Na can lose an electron to a hydrogen atom, to form sodium hydride (NaH). A chlorine atom has 7 valence electrons but a valency of 1, since chlorine gains a single electron from hydrogen to form the chloride ion (Cl<sup>-</sup>).

109 Explain why a fuse must be placed in the live wire instead of the neutral wire.

If the fuse is placed in the neutral wire, the electrical appliance may become or remain live in the event of an electrical fault, as the large current that flows through the live wire will not flow through the neutral wire. By placing the fuse in the live wire, the electrical appliance will not be live when an electrical fault occurs as the fuse will melt and break the circuit, making the electrical appliance safe.

110 When choosing a fuse, explain why the fuse rating should not be too large compared to the working current of the electrical appliance.

If the fuse rating is too large, it allows an excessive amount of current to flow into the faulty appliance without melting. The amount of excessive current is much larger than the working current, and this may result in an electrical fire.

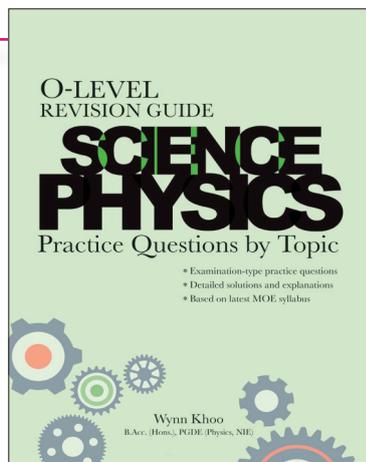
115 An appliance is rated 12 V, 8 W. Explain what this means.

When there is a potential difference of 12 V across the appliance, 8 W of power is dissipated.

116 Explain the importance of using a miniature circuit breaker in a consumer unit.

Circuit breakers are safety devices that trip and turn off the electricity supply whenever an excessive current flows through the live wire. This prevents the appliance from being live, and ensures the safety of the person handling the faulty electrical appliance.

# O-Level Revision Guide Series



**Science (Physics)**

ISBN: 9789811130847

This revision practice book was written specially to help students comprehend the topics in the new Physics syllabus better. The contents are well organised and systematic to help students self-study and revise in an effective way.

The book begins with an introductory chapter on physical quantities and measurements and follows the sequence of the school textbooks closely. Each chapter consists of examination-type questions that will stretch and widen students' exposure to different variations of questions. Answers to the exercises are also provided for students to evaluate their own learning.

Today's education arena is very competitive. This book aims to equip students with the necessary knowledge and give them an additional edge in the examinations.

**GET THAT SOLUTION!**

O-LEVEL REVISION SCIENCE PHYSICS PRACTICE BY TOPIC

4. Two solid cubes are made from the same material. One cube has sides that are two times as long as the other.

When placed on one side, the small cube exerts a pressure  $p$  on the ground. If one area of each side of the small cube is  $A$ , determine the pressure exerted by the large cube standing on one of its faces.

A 13 $p$     B 8 $p$     C 4 $p$     D 2 $p$     ( )

7. The figure shows a hydraulic device that transmits pressure exerted at Piston A to Piston B. In liquid is incompressible. Piston A has an area of 0.25 m<sup>2</sup> and Piston B is 0.25 m<sup>2</sup>. What is the force exerted at piston B given that pressure exerted at A is the same as pressure exerted at B?

A 100 N    B 20 N    C 15 N    D 5 N    ( )

8. The system shown in the diagram contains a liquid.

A downward force of 80 N is exerted on piston K. What will be the upward force exerted by the liquid on piston L?

A 4 N    B 1600 N    C 1200 N    D 6400 N    ( )

9. A pin is squeezed between the finger and the thumb.

Which of the following statements is correct?

A The force of the pin is larger on the finger than on the thumb.  
 B The force of the pin is larger on the thumb than on the finger.  
 C The pressure of the pin is larger on the finger than on the thumb.  
 D The pressure of the pin is larger on the thumb than on the finger.

( )

**GET THAT SOLUTION!**

UNIT 19 - Magnetism

11. Fig. 11.1 shows a light aluminium rod resting between the poles of a magnet. A current is passed through the rod from two brass strips connected to a power supply.

Fig. 11.1

(a) Explain what is meant by a magnetic field.

(b) Describe and explain the direction which the rod will move when the switch is closed.

(c) Suggest two ways to increase the force acting on the rod.

(d) Copy the aluminium rod onto your answer sheet. Draw the pattern of the magnetic field due to the current in the rod only. Indicate clearly the direction of the current flow and magnetic field.

## Examination-type Questions

Each chapter consists of multiple-choice questions and structured questions.

## Detailed Solutions

Solutions come with detailed explanations, even for multiple-choice questions.

**ANSWERS**

**Unit 1**

**Multiple-Choice Questions**

1. D    2. C    3. B    4. 6000 g; 72 000 000 L; 0.0002 g  
 5. (a) 200 A    (b) 200 A  
 6. 30. 30 kV or 0.030 MV

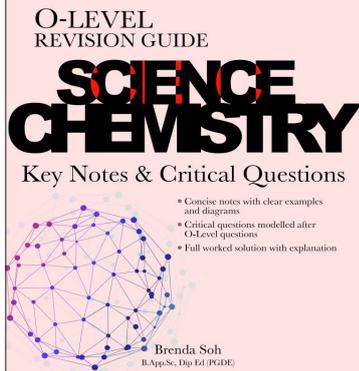
**Unit 2**

**Multiple-Choice Questions**

1. B    2. A    3. D    4. C    5. B    6. A    7. A    8. A    9. C    10. B    11. D    12. B    13. A    14. D    15. A

**Structured Questions**

1. (a) 4.4    (b) 2.0    (c) 1.0  
 2. (a) 1.0 m/s    (b) 1.0 m/s  
 3. (a) 10 s    (b) 10 s  
 4. (a) 1.0 s    (b) 1.0 s  
 5. (a) 1.0 s    (b) 1.0 s  
 6. (a) 1.0 s    (b) 1.0 s  
 7. (a) 1.0 s    (b) 1.0 s  
 8. (a) 1.0 s    (b) 1.0 s  
 9. (a) 1.0 s    (b) 1.0 s  
 10. (a) 1.0 s    (b) 1.0 s  
 11. (a) 1.0 s    (b) 1.0 s  
 12. (a) 1.0 s    (b) 1.0 s  
 13. (a) 1.0 s    (b) 1.0 s  
 14. (a) 1.0 s    (b) 1.0 s  
 15. (a) 1.0 s    (b) 1.0 s  
 16. (a) 1.0 s    (b) 1.0 s  
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 94. (a) 1.0 s    (b) 1.0 s  
 95. (a) 1.0 s    (b) 1.0 s  
 96. (a) 1.0 s    (b) 1.0 s  
 97. (a) 1.0 s    (b) 1.0 s  
 98. (a) 1.0 s    (b) 1.0 s  
 99. (a) 1.0 s    (b) 1.0 s  
 100. (a) 1.0 s    (b) 1.0 s



**Science (Chemistry)**  
ISBN: 9789811133961

This guide covers the entire O-Level Science Chemistry syllabus. It is an ideal study guide for the preparation of assessments and examinations, with units arranged in chronological order under sub-topics.

Each unit consists of concise notes with clear examples and detailed diagrams to facilitate effective learning and knowledge building. The critical questions found at the end of each chapter consist of a range of essential questions modelled after O-Level questions to assess different aspects of the learning outcomes. Fully worked solutions with explanation are also provided.

UNIT 12  
CHEMICAL ANALYSIS

**12.1 TEST FOR CATIONS**

- Cations can be identified by using sodium hydroxide solution or aqueous ammonia. These reagents are added dropwise to a sample, until the reagents are in excess.
- Cations can be identified by observing:
  - the colour of the precipitate formed on adding a few drops of reagent,
  - the solubility of the precipitate in excess reagent,
  - the evolution of ammonia gas on warming with sodium hydroxide solution.
- Both sodium hydroxide and aqueous ammonia are alkalis which contain hydroxide ions, OH<sup>-</sup>. The formation of precipitate is due to the formation of insoluble metal hydroxides.
 
$$\text{Mg}^{2+} + \text{H}^+\text{OH}^- \rightarrow \text{OH}^-\text{Mg}^+ \rightarrow \text{Mg}(\text{OH})_2$$

green solution      from sodium hydroxide      green precipitate  
or aqueous ammonia
- The following table summarises the observations obtained when each of the cations is tested with sodium hydroxide solution and aqueous ammonia.

Cation	Sodium hydroxide, NaOH(aq)	Aqueous ammonia, NH <sub>3</sub> (aq)
Al <sup>3+</sup> Aluminium	White precipitate formed, precipitate soluble in excess to form a colourless solution.	White precipitate formed, precipitate insoluble in excess.
Ca <sup>2+</sup> Calcium	White precipitate formed, precipitate insoluble in excess.	No precipitate formed.
Cu <sup>2+</sup> Copper(II)	Blue precipitate formed, precipitate insoluble in excess.	Blue precipitate formed, precipitate insoluble in excess to form a deep blue solution.
Fe <sup>2+</sup> Iron(II)	Green precipitate formed, precipitate insoluble in excess.	Green precipitate formed, precipitate insoluble in excess.
Fe <sup>3+</sup> Iron(III)	Reddish-brown precipitate formed, precipitate insoluble in excess.	Reddish-brown precipitate formed, precipitate insoluble in excess.
Pb <sup>2+</sup> Lead(II)	White precipitate formed, precipitate soluble in excess to form a colourless solution.	White precipitate formed, precipitate insoluble in excess.
Zn <sup>2+</sup> Zinc	White precipitate formed, precipitate soluble in excess to form a colourless solution.	White precipitate formed, precipitate soluble in excess to form a colourless solution.
NH <sub>4</sub> <sup>+</sup> Ammonium	No precipitate formed. On warming, colourless and pungent gas evolved which turns moist red litmus paper blue. Ammonia gas is evolved.	

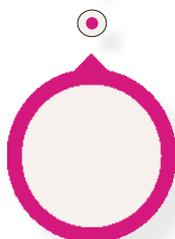
## Easy-to-read Tables

Detailed information is placed into tables for easier reading and better understanding.



## Thinking Process

Thought process required to reach the answer are emphasised under 'Thinking Process' so that students can learn them easily.



O-Level Science Chemistry Key Notes & Practice by Topic

**2. Insoluble salts are prepared by the precipitation method.**

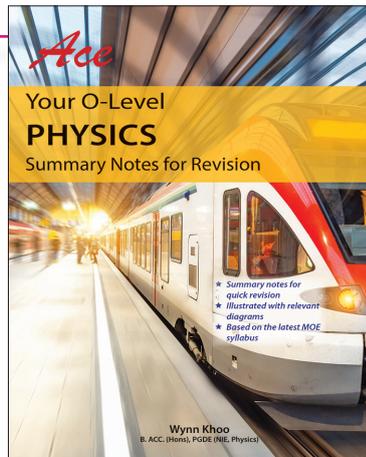
*Example:* Steps in preparing a dry sample of dry silver chloride salt:

- 20 cm<sup>3</sup> 0.1 mol/dm<sup>3</sup> silver nitrate solution
- 20 cm<sup>3</sup> 0.1 mol/dm<sup>3</sup> sodium chloride solution
- 20 cm<sup>3</sup> 0.1 mol/dm<sup>3</sup> silver chloride solution

Word equation: silver nitrate + sodium chloride → silver chloride + sodium nitrate  
Chemical equation:  $\text{AgNO}_3(\text{aq}) + \text{NaCl}(\text{aq}) \rightarrow \text{AgCl}(\text{s}) + \text{NaNO}_3(\text{aq})$

- Add equal volumes of silver nitrate solution to sodium chloride solution in a beaker. Stir the mixture.
- Filter the mixture to obtain silver chloride as residue and sodium nitrate solution as filtrate.
- Wash silver chloride salt with distilled water.
- Dry silver chloride salt between sheets of filter paper.

# Ace Your O-Level Physics



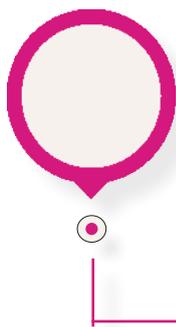
ISBN: 9789811803703

Ace Your O-Level Physics – Summary Notes for Revision is written based on the latest syllabus of code 6091 for students taking the O-Level examination from 2018 and beyond.

The book is organised by topic and provides notes that summarise the key concepts of Physics for students. The book aims to help students comprehend key concepts of Physics by following the syllabus requirements and topics closely.

## Informative Diagrams

Diagrams are included in the notes to help students better understand and visualise the concepts. They also help students achieve success and excel in their O-Level Physics examination by making concepts easier to understand.



Ace Your O-Level Physics – Summary Notes for Revision

**Vectors and Scalars**  
 Vectors are quantities with both magnitude and direction. Examples are velocity, displacement, acceleration.  
 Scalars are quantities with only magnitude. Examples are distance, speed, energy.

Vector addition by graphical method includes the head-to-tail and parallelogram method. When a vector changes in direction, its sign convention changes as well.

Example:

**Head-to-Tail Method**

**Parallelogram Method**

When given the vectors A and B, a parallelogram can be drawn by drawing a line parallel to vector B and connected to vector A, and a line parallel to vector A and connected to vector B. From the diagram above, an arrow joining one end of the parallelogram to the other would be the addition of both vectors.

CHAPTER 1: MEASUREMENTS

**Precisions**

Metre rule	0.1 cm
Vernier calliper	0.05 mm
Micrometer screw gauge	0.001 mm
Stopwatch	0.01 s
Electronic balance	0.01 g

**Vernier Calliper**  
 Precision: 0.01 mm or 0.1 mm  
 Negative zero error: -0.03 mm  
 Note: Negative zero errors are read from the back.

Positive zero error: +0.06 mm

If there is a positive error of +0.05 cm  
 Reading is: 3.34 cm - (+0.05 cm) = 3.29 cm  
 If there is a negative error of -0.03 cm  
 Reading is: 3.34 cm - (-0.03 cm) = 3.39 cm

**No Zero Error**

CHAPTER 2  
KINEMATICS

Distance is the length of the path travelled while displacement is the shortest distance from a specified distance from a fixed point.

In the example above, the bicycle travels from point A to B to C. In this case, the total distance travelled is 4 + 3 = 7 m. However, the displacement of the bicycle from point A to C is 5 m as it is the shortest distance from A to C.

Taking right to be positive and the lamp post as a fixed point, P has a displacement of 5 units from the lamp post while Q has a displacement of -6 units from the lamp post. This example illustrates the importance of the direction from the fixed point when calculating displacement.

Speed is the distance moved over the time taken.  
 Velocity is the displacement moved over the time taken.

In the example above, P is travelling in the positive direction, thus, its velocity is positive. Q is travelling towards the left, thus, it has a negative velocity. However, both of their speeds are positive.

CHAPTER 2: KINEMATICS

Average speed ( $m\ s^{-1}$ ) =  $\frac{\text{Total distance travelled}}{\text{Time taken}}$

The concept of average speed is useful when the object is moving at different speeds throughout its journey.

The bicycle could travel from A to B at a speed of 1 m/s and then travel from B to C at 2 m/s. Time taken from A to B is 4 s and time taken from B to C is 1.5 s. Since the bicycle travels at different speeds throughout its journey, the average speed would be =  $\frac{4 + 3}{1.5 + 4} = 1.27\ m/s$ .

Average velocity would however be =  $\frac{\text{Total displacement}}{\text{Total time}} = \frac{5}{1.5 + 4} = 0.91\ m/s$

**Acceleration** is the rate of change of velocity over time.  
**Uniform acceleration** means that velocity increases at a constant rate over time and acceleration of object remains constant.

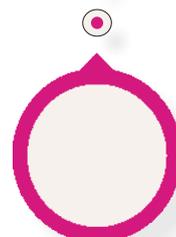
Acceleration ( $m\ s^{-2}$ ) =  $\frac{\text{Change in velocity}}{\text{Time taken}} = \frac{v - u}{t}$

Non-uniform acceleration means that velocity does not increase at a constant rate. One example is an object falling from a height when air resistance is not negligible. Air resistance acts as a **drag force** in the opposite direction of the direction of movement of the object.

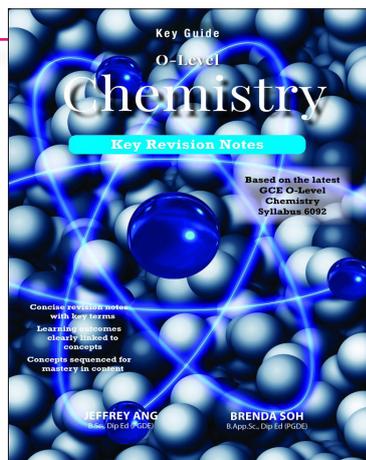
At  $t = 0$ ,  
 Initially, the object is stationary.  
 The only force acting on the object is gravity,  $g$ .  
 The object falls with an acceleration of 9.81  $m/s^2$ .

## Examples

There are several worked examples in the book where answers are given. This is to help students apply the equations and concepts learnt to solve questions.



# Chemistry Key Revision Notes



ISBN: 9789811172663

The main purpose of this guidebook is to enable students to master Chemistry effectively and efficiently. It incorporates insights the authors have acquired from their many years of teaching the subject in schools. Within a topic, sub-topics are carefully sequenced to build on existing prior knowledge and ensure a good grasp of fundamental Chemistry concepts. This prevents misconceptions which are common pitfalls of many students. This guidebook not only meets the requirements of the revised GCE O-Level Chemistry Syllabus but is also highly relevant to students who are in the Integrated Programme.

## Clear Diagrams

Diagrams are provided to illustrate concepts for better understanding.

REVISION LEVEL: CHEMISTRY - KEY REVISION NOTES

Example: Electrolysis of dilute aqueous sodium chloride using graphite electrodes

In the electrolyte, there are sodium cations, hydrogen cations, chloride anions and hydroxide anions. The processes at the two electrodes are summarised in the table below:

Electrode	Ions present	Half equation	Explanation	Observation
Cathode	$\text{Na}^+$ , $\text{H}^+$	$2\text{H}^+(\text{aq}) + 2\text{e}^- \rightarrow \text{H}_2(\text{g})$	Hydrogen ions are more reactive and less stable than sodium ions. Hydrogen ions are preferentially discharged.	Bubbles form. Colourless gas evolved.
Anode	$\text{Cl}^-$ , $\text{OH}^-$	$4\text{OH}^-(\text{aq}) \rightarrow 2\text{H}_2\text{O}(\text{l}) + \text{O}_2(\text{g}) + 4\text{e}^-$	Hydroxide ions are more reactive and less stable than chloride ions. Hydroxide ions are preferentially discharged.	Bubbles form. Colourless gas evolved.

Overall equation:  $2\text{H}_2\text{O}(\text{l}) \rightarrow 2\text{H}_2(\text{g}) + \text{O}_2(\text{g})$

Note: The overall equation for the electrolysis of aqueous sodium chloride is the decomposition of water into its constituent elements – hydrogen gas and oxygen gas.

Note: The volume of hydrogen gas produced is approximately double that of oxygen gas due to the mole ratio represented in the overall equation.

134

## Notes

Important points to take note of are emphasised under Notes section for easier referencing.



REVISION LEVEL: CHEMISTRY - KEY REVISION NOTES

7. The industrial conditions for the Haber Process are the following:  
 (a) Temperature of 450°C  
 (b) Pressure of 200 atm  
 (c) Finely divided iron catalyst

8. The conditions used in the Haber Process and reasons are summarised in the table below:

Condition	Reason
Temperature of 450°C	A low temperature increases yield but results in a very slow rate of production. A high temperature increases the rate of production but results in lower yield and higher production costs. A moderately high temperature of 450°C is used to ensure a reasonable rate of production and yield.
Pressure of 200 atm	At higher pressures, stronger pipes and equipment that could withstand the high pressure are needed, which add on to production cost.
Finely divided iron as catalyst	Catalyst increases rate of production of ammonia. The finely divided catalyst increases the surface area, which speed up the rate of reaction further.

9. The raw materials for the Haber Process are nitrogen and hydrogen. Nitrogen is obtained from the fractional distillation of liquid air while hydrogen is obtained from the cracking of hydrocarbons (Refer to Chapter 20.3 – Cracking).

Note: Ammonia has a higher boiling point than hydrogen and nitrogen. When the mixture of hydrogen, nitrogen and ammonia enters the condenser, the ammonia condenses into liquid but the other gases do not.

106

## Detailed Examples

Examples are provided along with explanations to aid students' revision of topics.

REVISION LEVEL: CHEMISTRY - KEY REVISION NOTES

6. The total proton and neutron in the atom is known as the **relative atomic mass** or **nucleon number**. It is represented by **A**.

7. The proton number and the relative atomic mass are represented in the periodic table as either of the following:

$\begin{matrix} \text{Relative atomic mass} \rightarrow A \\ \text{Proton number} \rightarrow X \\ \text{Chemical symbol} \end{matrix}$

$\begin{matrix} \text{Proton number} \rightarrow X \\ \text{Relative atomic mass} \rightarrow A \\ \text{Chemical symbol} \end{matrix}$

8. Each element has a unique proton number. No two different elements have the same proton number.

9. To calculate the sub-atomic particles in an atom:  
 Number of protons: proton number  
 Number of electrons: equal number of protons  
 Number of neutrons: relative atomic mass – proton number

Example:

Group	Nitrogen atom	Sodium atom
	$\begin{matrix} 14 \\ \text{N} \\ 7 \\ \text{Nitrogen} \\ 14 \end{matrix}$	$\begin{matrix} 23 \\ \text{Na} \\ 11 \\ \text{Sodium} \\ 23 \end{matrix}$
	Number of protons: 7 Number of electrons: 7 Number of neutrons: 14 – 7 = 7	Number of protons: 11 Number of electrons: 11 Number of neutrons: 23 – 11 = 12

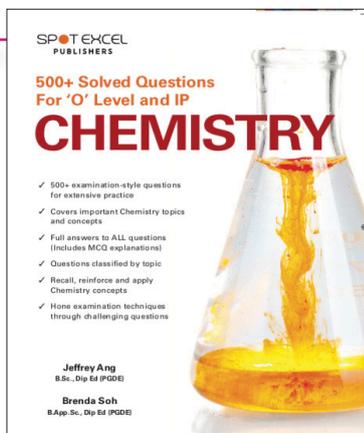
10. When a beam comprising protons, electrons and neutrons is passed through an electric field, the protons and electrons are deflected according to the diagram below.

Note: Neutrons (zero charge) are not deflected.  
 Protons (positively charged) are deflected towards the negative plate.  
 Electrons (negatively charged) are deflected towards the positive plate.  
 The angle of deflection is dependent of the relative masses and charge of the particles.

50



# 500+ Solved Questions for O-Level & IP Chemistry



ISBN: 9789811489129

This book allows students to master Chemistry concepts and tackle questions with confidence in their Chemistry examinations. It meets the requirements of the revised GCE O-Level Chemistry Syllabus (6092) and is highly relevant to students who are in the Integrated Programme.

Questions are classified according to major topics in the syllabus to allow students to work methodically and hone their answering techniques. There are more than 500 examination-style questions for extensive practice and full answers to all questions are provided to facilitate independent learning and allow students to improve on their answering techniques.

This book should be used in conjunction with Key Guide O-level Chemistry Key Revision Notes by the same authors. The suggested answers complement the notes in the guidebook.

13. Three experiments were set up to investigate the reactivity of three metals, magnesium, copper and zinc as shown below. A deposit was formed in all three test tubes.

Metal X could be

- Aluminium
- Calcium
- Silver
- Zinc

14. Four bubbles of copper(II) sulphate solution were prepared. Electrolysis cells were used and magnesium powder was added separately into the beakers of copper(II) sulphate solution. How many blue solutions will be obtained after a few days?

- 0
- 1
- 2
- 3

15. The table below summarises the reactions of metals F and G with cold water, steam and dilute sulphuric acid.

metal	cold water	steam	dilute sulphuric acid
F	✓	✓	✓
G	x	x	✓

Which of the following statements is **not** correct?

- F would displace G from a salt solution of G.
- F can be extracted from its ore by heating with CO.
- The carbonate of F is thermally more stable than the carbonate of G.
- The oxide of F decomposes upon strong heating.

16. When aqueous chlorine is added to potassium iodide, a chemical reaction takes place.

- Write an ionic equation for the reaction.
- State and explain what would be observed during the reaction.
- Describe what would be observed when aqueous silver nitrate is added to separate tubes containing chloride and iodide ions respectively.

16. Tin (IV) oxide was added to an acidified solution containing chloride ions. The oxidation ionic equation is:

$$\text{SnCl}_6^{4-} + \text{Cl}^- + 2\text{H}^+ \longrightarrow \text{SnCl}_2(\text{aq}) + \text{Cl}_2(\text{g}) + \text{H}_2\text{O}(\text{l})$$

- Write a balanced ionic equation for the reaction.
- Explain, in terms of oxidation state, whether  $\text{SnCl}_4$  is acting as an oxidising agent, including agent.

17. Terrene, T, is a newly-discovered element. A few properties of terrene and its known compounds are shown in the table below.

	melting point / °C	boiling point / °C	electrical conductivity	solubility in water
Terrene	72	145	poor	insoluble
Barium terrene	2340	3000	High when molten	insoluble
Iodide of terrene	1340	2450	High when molten	soluble

- Explain why terrene is unlikely to be found in Group 0.
- Scientists discovered that barium terrene has the chemical formula of  $\text{Ba}_2\text{T}$ . Which group of the Periodic Table is terrene likely to be found in?
- Using your answer in (b), explain why terrene exists as diatomic molecules.
- Suggest why the melting point of barium terrene is about twice that of the iodide terrene.

## Practice Questions

A collection of examination-style questions for students to practise on.

## Detailed Solutions

Full answers to all questions are provided, including explanations for multiple-choice questions.

26. D. The oxidation state of sodium, oxygen, nitrogen and hydrogen do not change in the reaction. Hence the reaction does not involve oxidation or reduction. Since all the reactants are in aqueous solution, the reaction is not a redox reaction.

The oxidation state of copper changes from +2 in  $\text{CuSO}_4$  to 0 in Cu. The oxidation state of oxygen changes from -2 in  $\text{CuSO}_4$  to -2 in  $\text{H}_2\text{O}$ . The oxidation state of hydrogen changes from +1 in  $\text{H}_2\text{SO}_4$  to +1 in  $\text{H}_2\text{O}$ .

27. A. A. The oxidation state of chlorine, sulfur and oxygen do not change in the reaction. Hence this is not a redox reaction.  
 B. The oxidation state of chlorine changes from +3 in  $\text{Cl}_2$  to +1 in  $\text{Cl}^-$  and -1 in  $\text{ClO}_2^-$ .  
 C. The oxidation state of nitrogen changes from +5 in  $\text{NO}_3^-$  to +4 in  $\text{NO}_2^-$ .  
 D. The oxidation state of sodium changes from +1 in  $\text{Na}^+$  to +1 in  $\text{NaCl}$ .

28. D. A. The oxidation state of silver changes from +1 in Ag to 0 in Ag and the oxidation state of bromine changes from -1 in AgBr to 0 in  $\text{Br}_2$ .  
 B. The oxidation state of copper changes from +2 in  $\text{Cu}^{2+}$  to 0 in Cu and to +2 in  $\text{Cu}^{2+}$ .  
 C. The oxidation state of iron changes from +2 in  $\text{Fe}^{2+}$  to +3 in  $\text{Fe}^{3+}$  and to +2 in  $\text{Fe}^{2+}$ .  
 D. The oxidation state of sulphur, oxygen, hydrogen and chlorine do not change in the reaction. Hence this is not a redox reaction.

29. D.  $107 \text{ (aq)} + 50 \text{ (aq)} + 100 \text{ (aq)} \rightarrow 200 \text{ (aq)} + 100 \text{ (aq)} + 100 \text{ (aq)}$   
 A mole of copper(II) sulphate (159.6 g) reacts with one mole of magnesium (24.3 g) to produce 1 mole of copper (63.5 g).

30. B. The oxidation state of Fe changes from 0 in Fe to +2 in  $\text{FeCl}_2$ . It loses electrons in the process. As a reducing agent, it must react with both-chlorine and. The oxidizing agent of the reaction, which indicates that the average level of the reaction is higher than the products. All redox reactions involve the transfer of electrons between the reactants and products.

31. C. The oxidation state of mercury changes from +1 in  $\text{Hg}_2\text{Cl}_2$  to 0 in Hg and +2 in  $\text{HgCl}_2$ . Mercury has undergone both oxidation and reduction in the same reaction.

32. D. The oxidation state of sulfur are 0 in  $\text{S}$ , +4 in  $\text{SO}_2$ , +6 in  $\text{H}_2\text{SO}_4$  and +6 in  $\text{H}_2\text{SO}_4$ .

33. A. For Sn the oxidation state of 0 changes to +2 in  $\text{SnCl}_2$  and +4 in  $\text{SnCl}_4$ .  
 $0 \rightarrow +2 \rightarrow +4$

34. C. Sodium hexafluoroantimonate is a salt. The oxidation state of antimony decreases from +5 in antimony hexafluoroantimonate to +3 in antimony trifluoride.  
 $+5 \rightarrow +3$

35. M. Magnesium (Mg) reduces ethane to ethane on the oxidation state of ethane decreases from +3 in ethane to +2 in ethane. Magnesium is oxidised on the oxidation state of magnesium increases from 0 to +2 in magnesium oxide.  
 $0 \rightarrow +2$

29. (a)  $\text{C}_2\text{H}_6(\text{g}) + \text{HCl}(\text{g}) \rightarrow \text{C}_2\text{H}_5\text{Cl}(\text{g}) + \text{H}_2(\text{g})$

(b) The volume of gas produced from the diluted hydrogen peroxide is half that from the original hydrogen peroxide because there is only half the number of moles of hydrogen peroxide in the diluted solution. As the concentration of the diluted hydrogen peroxide is lower, the rate of effluence of oxygen from the reaction decreases and takes longer to reach the maximum. The curve would be steeper and the reaction will end at a shorter time. The total volume of oxygen produced would be the same.

(c) When more catalyst is added, the total rate of reaction increases resulting in a steeper gradient. However, the total amount of oxygen gas produced will remain the same since the number of moles of hydrogen peroxide and remains the same.

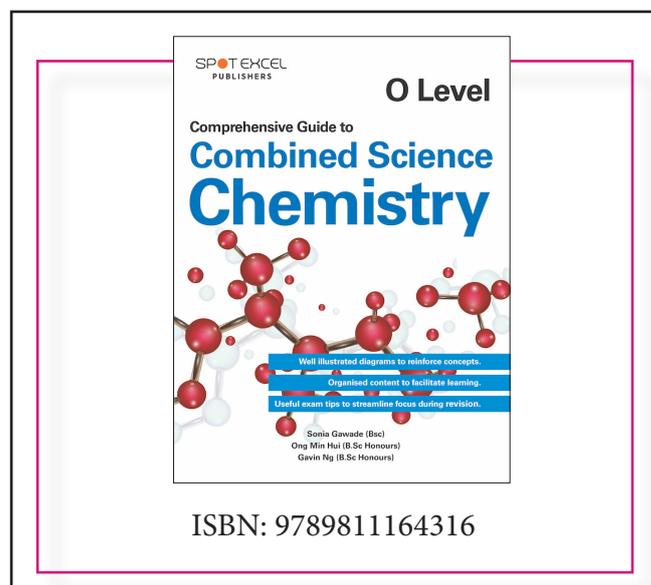
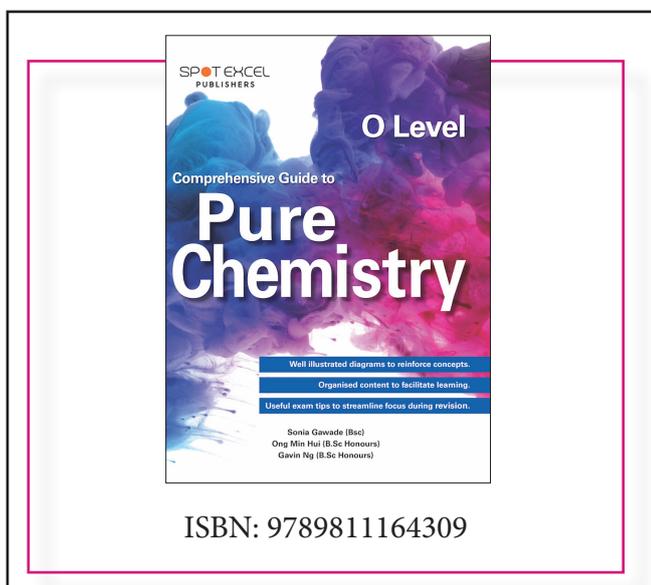
30. (a) No. of moles of  $\text{O}_2$  produced =  $\frac{2.24}{22.4} = 0.100 \text{ mol}$   
 0.010 mol  $\text{H}_2\text{O}_2$  and 0.050 mol  
 Concentration of  $\text{H}_2\text{O}_2 = \frac{0.010}{0.050} = 0.2 \text{ mol dm}^{-3}$

# Comprehensive Guide to Chemistry

This series distinguishes itself from other self-help books by:

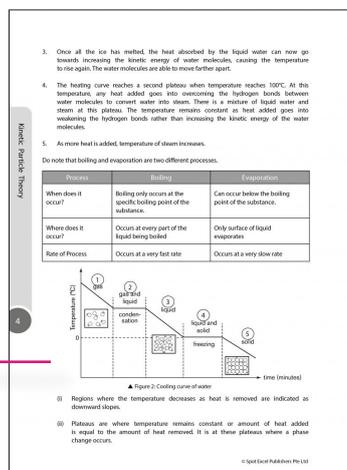
1. Attempting to provide more comprehensive explanation behind concepts, so that students are able to grasp with better understanding for each section.
2. Providing examination focused tips to aid students to streamline importance during revision.
3. Organising content in such a way that only important examination concepts to be tested are focused on, as well as application concepts linking to other topics.

Given the varying content taught to students across Singapore for Chemistry, the author hopes that these guidebooks can help to standardise the content taught, so that each student is able to have a common understanding of what will be tested and avoid unnecessary content that may impede their learning progress.



## Descriptive Diagrams

Includes informative diagrams which help to enhance learning for more effective memorisation.



## Table Format

Information is arranged in easy-to-read tables for better reading and an overall more efficient learning experience.

Characteristics	Solid	Liquid	Gas
Volume and Compressibility	Fixed Particles in a solid are very closely packed hence they have a fixed volume. Thus, a solid cannot be compressed.	Fixed Particles in a liquid are slightly further apart, however the liquid particles are still relatively packed closely together. Hence, liquids can be compressed only slightly.	Not Fixed Particles in a gas are spread very far apart from one another as compared to particles in a liquid. The empty space between the gas particles, allow for a gas to be compressed. Hence a gas does not have a fixed volume.
Movement of Particles	Solid particles have only sufficient kinetic energy to vibrate and rotate around their fixed positions.	Liquid particles have more kinetic energy than solid particles, hence they are able to move in random motion at relatively fast speeds.	Gas particles possess a huge amount of kinetic energy that allows for them to move in random motion and at very high speeds.
Forces of Attraction	Very strong forces of attraction which helps keep solid particles close to one another in an orderly manner.	Liquid particles have weaker forces of attraction as compared to solid particles. These weaker forces of attraction allows for liquid particles to flow.	Gas particles have negligible forces of attraction which allows for them to move very far apart from one another.

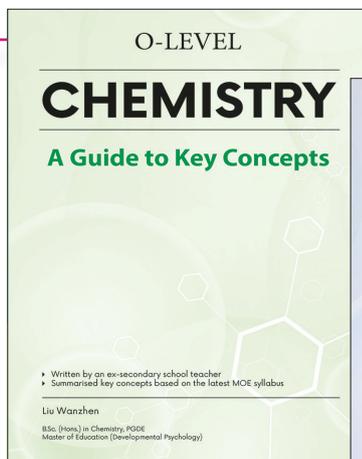
**SOME EXAM TIP**  
It's good knowledge to practice drawing out the arrangement of solid, liquid and gas particles.

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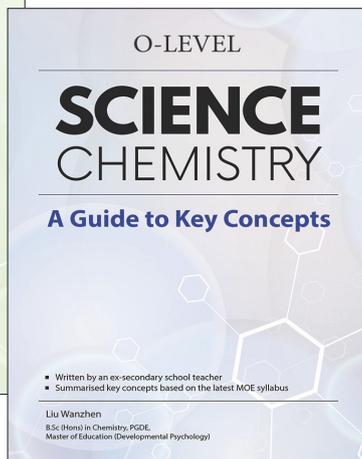
## Exam Tips

Useful exam tips are included to help streamline focus during revision.

# Chemistry: A Guide to Key Concepts



ISBN: 9789814996112



ISBN: 9789811479083

These books are guides to key concepts in O-Level Chemistry or Combined Science Chemistry based on the latest MOE syllabus.

Important Chemistry concepts are presented in simple and concise points for quick and easy reference, making it ideal for quick revision before a test or an examination. Relevant examples and diagrams are also provided to facilitate the understanding of important Chemistry concepts.

**Contents**

Chapter 1 Experimental Methods 1  
 Key Concept 1 Physical quantities and their properties  
 Key Concept 2 Gas collection method  
 Key Concept 3 Gas drying method

Chapter 2 Purification Methods 4  
 Key Concept 1 Separation techniques  
 Key Concept 2 Common examples  
 Key Concept 3 Properties of pure substance  
 Key Concept 4 Purify tests

Chapter 3 Kinetic Particle Theory  
 Key Concept 1 Describe solid, liquid and gas  
 Key Concept 2 The process of melting and boiling  
 Key Concept 3 The process of freezing and condensing

Chapter 4 Atomic Structure  
 Key Concept 1 Structure of an atom  
 Key Concept 2 Symbol of elements  
 Key Concept 3 Relative charge of ions  
 Key Concept 4 Isotopes

Chapter 5 Elements, Compounds  
 Key Concept 1 Elements  
 Key Concept 2 Illustration of the periodic table  
 Key Concept 3 Differences between elements and compounds

Chapter 6 Chemical Bonding  
 Key Concept 1 Drawing and describing chemical structures  
 Key Concept 2 Drawing and describing chemical structures  
 Key Concept 3 Physical properties of substances  
 Key Concept 4 Constructing chemical formulae

Chapter 7 Chemical Formulae  
 Key Concept 1 Chemical formulae  
 Key Concept 2 Chemical formulae  
 Key Concept 3 Chemical formulae  
 Key Concept 4 State symbols  
 Key Concept 5 Constructing chemical formulae  
 Key Concept 6 Constructing chemical formulae

Chapter 8 The Mole  
 Key Concept 1 Definition of relative atomic mass  
 Key Concept 2 Find the number of moles  
 Key Concept 3 Limiting reagent  
 Key Concept 4 Concentration of solutions

**Chapter 1 EXPERIMENTAL METHODS**

Physical quantity	SI unit	Other common units	Measuring instrument	Accuracy	Example of readings recorded
Mass	Kilogram (kg)	Grams (g) Tonnes (t)	Beam balance Electronic balance	$\pm 0.01$ g $\pm 0.03$ g	25.03 g 0.03 g
Time	Seconds (s)	Minute (min) Hour (h)	Analytical stopwatch Digital stopwatch	$\pm 0.1$ s $\pm 0.01$ s	25.3 s 25.03 s
Temperature	Kelvin (K)	Degree Celsius ( $^{\circ}\text{C}$ ) Fahrenheit ( $^{\circ}\text{F}$ )	Mercury thermometer Alcohol thermometer	$\pm 0.5$ $^{\circ}\text{C}$ (rounded off to the nearest $0.5$ $^{\circ}\text{C}$ ) $\pm 0.5$ $^{\circ}\text{C}$ (cannot be $25.3$ $^{\circ}\text{C}$ , $25.4$ $^{\circ}\text{C}$ )	$25.0$ $^{\circ}\text{C}$ $25.5$ $^{\circ}\text{C}$ $25.5$ $^{\circ}\text{C}$ [cannot be $25.3$ $^{\circ}\text{C}$ , $25.4$ $^{\circ}\text{C}$ ]
Volume of liquid	Cubic metre ( $\text{m}^3$ )	Cubic centimetre ( $\text{cm}^3$ ) Cubic decimetre ( $\text{dm}^3$ )	Beaker Measuring cylinder Burette Pipette	Inaccurate gives approximate measurement $\pm 0.5$ $\text{cm}^3$ (rounded off to the nearest $0.5$ $\text{cm}^3$ ) $\pm 0.05$ $\text{cm}^3$ (rounded off to the nearest $0.1$ or $0.05$ $\text{cm}^3$ ) Exact volumes of $20.0$ $\text{cm}^3$ or $20.00$ $\text{cm}^3$ ONLY (in the syllabus)	About $50$ $\text{cm}^3$ $25.0$ $\text{cm}^3$ $25.30$ $\text{cm}^3$ $25.5$ $\text{cm}^3$ $25.0$ $\text{cm}^3$ Exactly $25$ $\text{cm}^3$
Volume of gas	Cubic metre ( $\text{m}^3$ )	Cubic centimetre ( $\text{cm}^3$ ) Cubic decimetre ( $\text{dm}^3$ )	Gas syringe	$\pm 1$ $\text{cm}^3$	$25$ $\text{cm}^3$ $24$ $\text{cm}^3$

## Key Concepts

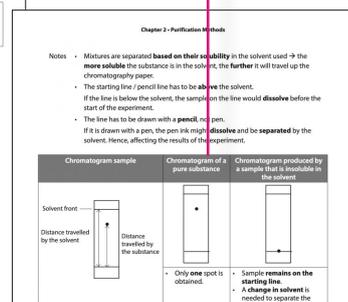
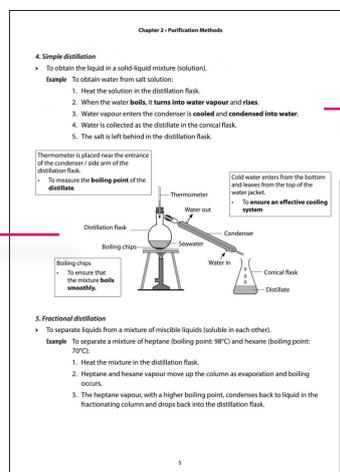
Key concepts covered are based on the latest MOE syllabus.

## Simple and Concise Points

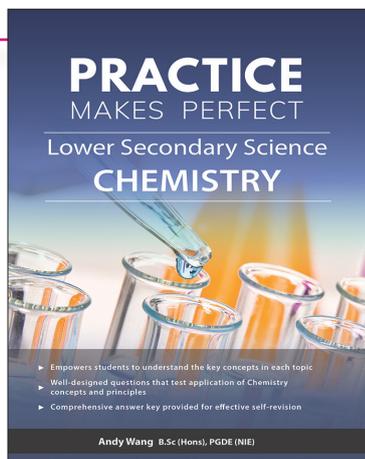
Points are simple and concise, with some in easy-to-read table formats for easier reading and better understanding.

## Descriptive Diagrams

Includes informative diagrams which aid in effective memorisation.



## Practice Makes Perfect: Science (Chemistry)



ISBN: 9789811481581

Practice Makes Perfect: Lower Secondary Science (Chemistry) is written to help students master chemistry more effectively and efficiently. This book aims to help students apply the concepts they are taught in school such that they are able to tackle a variety of problems at the current level, as well as build up a strong foundation for them to proceed to take on chemistry at a higher level. The chapters are based on latest Lower Secondary Science syllabus issued by the MOE.

Practice Makes Perfect Lower Secondary Science (Chemistry)

**Section A: Multiple Choice Questions**

1. In the diagram, circles of different sizes are used to show different atoms. Which diagram represents molecules of an element?

A B C D

2. Which diagram represents a mixture of two compounds?

A B C D

3. Which of the following properties can be used to show a compound?

A. Colour  
B. Density  
C. Boiling point  
D. Solubility in water

UNIT 4: Atoms and Molecules

**Section B: Structured Questions**

1. Atoms may lose or gain electrons to form ions.

(a) Explain why an atom is said to be electrically neutral.

.....

(b) The table below shows some atoms of elements and the corresponding ions formed by them. Complete the table.

	Number of valence electrons	Number of protons	Number of neutrons	Electronic configuration	Chemical symbol of ion
P	19	20			
Q		18	22		—
R		12	12		
S		9	10		

(c) Atom Q will not lose or gain electrons to form ions. With reference to the table as shown above, explain why this is so.

.....

(d) Draw the electronic structure of an atom of P in the space provided below.

.....

2. (a) Explain why a calcium atom is electrically neutral.

.....

### Topical Questions

Section A consists of MCQ questions and Section B consists of structured questions. The questions are selected to test the mastery of various concepts and application of the concepts taught in school.



### Answer Keys

The answer keys consist of key words and template for answering questions when students sit for tests or examinations.

ANSWERS

(9) oxide ion

10. (a) W: Condensation  
X: Electrolysis  
Y: Combustion/oxidation/combustion  
(b) Carbon + oxygen → carbon dioxide  
Change is irreversible.  
New products formed.

11. Heating / Oxidation

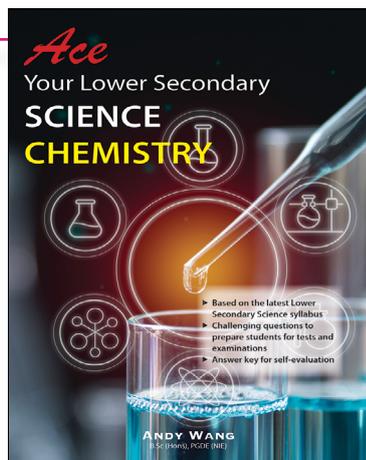
12. (a) Identify: Solid candle wax melting to form liquid wax.  
Explain: Liquid wax can be cooled and solidified to form solid candle. Melting is a reversible change.  
(b) (i) Identify: Burning of candle (wick).  
Explain: New product is formed/ Carbon dioxide is produced/ Reaction is irreversible.  
(ii) Oxygen  
(iii) Carbon + Oxygen → (Heat) + Carbon dioxide  
(c) Advantage: Provides energy for machines to function.  
Disadvantage: Produces poisonous gas when burning.  
Energetic Combustion of fuel.

13. (a)

Substances added	Is there a chemical reaction?	Name of products formed
Calcium + Sodium nitrate	No	Nil
Zinc oxide + Hydrochloric acid	Yes	Zinc chloride + Water
Sodium carbonate + Nitric acid	Yes	Sodium nitrate + Water + Carbon dioxide

14. (a) A physical change has no new product formed, whereas a chemical change has one or more new products formed.  
(b) It is a single substance that breaks up into two or more simpler substances when it is heated.  
(c) (i) Iron oxide and carbon monoxide  
(ii) Iron and carbon dioxide  
(iii) Iron is oxidised.

## Ace Your Science (Chemistry)



ISBN: 9789814996310

Ace your Lower Secondary Science (Chemistry) is written to help students master Chemistry more effectively and efficiently.

This book aims to help students apply the concepts they are taught in schools such that they are able to tackle a variety of problems in the current level, as well as build up a strong foundation for them to proceed to take on Chemistry at a higher level.

Ace your Lower Secondary Science (Chemistry)

**Section A: Multiple Choice Questions**

- Which of the following statements about elements is **not** true?
  - A. Elements are building blocks of all matter.
  - B. Elements cannot be broken down by chemical means.
  - C. Elements only occur naturally on Earth.
  - D. Elements combine to form compounds.
- Which of the following lists contains an element, a mixture and a compound?
  - A. air, copper, sodium chloride
  - B. air, pure water, copper(II) sulfate
  - C. magnesium, lead, copper
  - D. magnesium, steam, copper(II) sulfate
- Which of the following sets contains only elements?
  - A. Air, Neon and Oxygen
  - B. Mercury, Gold and Neon
  - C. Gold, Sulphur and Brass
  - D. Hydrogen, Steel and Oxygen
- Diagrams X, Y and Z represent three different substances.
 

X

Y

Z

○ Atom of element P  
● Atom of element Q

Which row in the table correctly describes X, Y and Z?

	X	Y	Z
A	Compound	Element	Mixture
B	Compound	Mixture	Element
C	Mixture	Element	Compound
D	Mixture	Compound	Element

Ace your Lower Secondary Science (Chemistry)

- Which group of substances contains an element and a mixture?
  - A. zinc and air
  - B. air and water
  - C. potassium and copper(II) sulfate
  - D. oxygen and beryllium

**Section B: Structured Questions**

- Matter can be classified in many ways. Fill in the blanks below using the words provided.
 

Compounds	Elements	Mixtures	Pure substances
Metal	Solutions	Suspensions	Non-metal
MATTER			
- The information of substances X, Y and Z are found in the table below.
 

Substances	Description
X	Speckled grey and white. The grey particles are attracted to a magnet.
Y	Has a fixed melting and boiling point. Decomposes into two elements when heated.
Z	Colourless gas. It burns in oxygen to form water vapour only.

### Topical Questions

Topical exercise questions are divided into 2 sections: Section A consists of MCQ questions and Section B consists of structured questions.

Based on the MOE syllabus chapters, the questions are selected to test the mastery of various concepts and application of the concepts taught in school.

### Answers

Answers consist of key words and templates in answering questions when students sit for tests or examinations.

ANSWERS

Unit 1 Exploring Diversity of Matter by its Chemical Composition

**Section A: Multiple Choice Questions**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
C	A	B	D	C	B	D	C	D	D	B	C	A	D	A

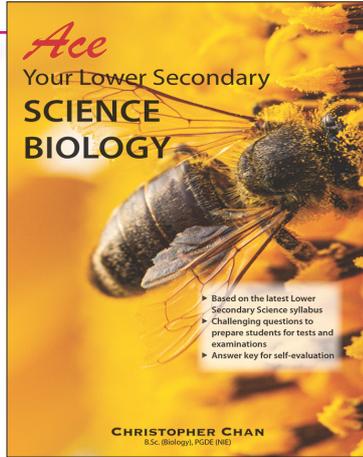
**Section B: Structured Questions**

- | MATTER          |           |           |             |
|-----------------|-----------|-----------|-------------|
| Pure substances | Mixtures  |           |             |
| Elements        | Compounds | Solutions | Suspensions |
| Metal           | Non-metal |           |             |
|                 |           |           |             |
|                 |           |           |             |
- (a) Y  
(b) X
- (a) An element is a pure substance which cannot be broken down into simpler by chemical processes/reactions.  
(b) (i) Q and T  
(ii) S  
(iii) Q  
(c) Carbon Dioxide (Carbon and Oxygen), Nitrogen Dioxide (Nitrogen and Water (Hydrogen and Oxygen))

Ace your Lower Secondary Science (Chemistry)

- |                   |   |                                  |  |
|-------------------|---|----------------------------------|--|
| <p>An element</p> | <p>A compound comprising of 3 atoms</p> | <p>A mixture of two elements</p> | <p>A mixture of one element and one compound</p> |
|-------------------|---|----------------------------------|--|
- A. Malten copper
  - B. Oxygen gas
  - C. Saltwater
  - D. Pure water
  - E. Copper wire
  - F. Air
- (a) (i) Lead, selenium, mercury, cadmium  
(ii) Lead: cathode ray tube (CRT) in computer monitors and TV sets, mobile phone Selenium: keyboard  
Mercury: switches and housing of the CPU, CRT in TV sets, mobile phone, batteries  
Cadmium: semi-conductors in CPU, CRT in TV sets  
Effects:  
Lead: damage the vital organs, leading to coma or death from lead poisoning  
Selenium: chemical pneumonia and tachycardia  
Mercury: attacks the central nervous and endocrine systems and cause mental disturbances and neuromuscular changes  
Cadmium: affects the lungs and kidneys  
(c) (i) Good electrical conductors: essential in electrical appliances.  
High melting and boiling point; do not melt easily.

# Ace Your Science (Biology)



ISBN: 9789811481246

Ace Your Lower Secondary Science (Biology) is written to help students understand Biology on a topic-by-topic basis. The content is organised to effectively aid students' revision. This book aims to equip students with the necessary knowledge and also provide them with an additional edge over others in examinations.

Each chapter of this book consists of questions that will challenge students while exposing them to a variety of possible questions. An answer key is also provided to allow students to evaluate their own learning.

**UNIT 1**  
**Model of Cells – The Basic Units of Life**

**Section A: Multiple Choice Questions**

- Which of the following substances can pass through the cell membrane?  
A. Starch and glucose  
B. Proteins and malaise  
C. Polypeptides and amino acids  
D. Glycerol and amino acids
- The plasma membrane is \_\_\_\_\_  
A. fully permeable  
B. partially permeable  
C. non-permeable  
D. only permeable to gases
- Which cell structure is partially permeable to both oxygen and carbon dioxide?  
A. Cell membrane  
B. Cell wall  
C. Cytoplasm  
D. Nucleus
- Which of the following statements is false?  
A. Energy is needed to repair damaged cells.  
B. Food is needed to maintain body temperature.  
C. Energy is not used while we are sleeping.  
D. Energy obtained from the digestion of food sustains cellular activities.
- The figure below shows a liver cell and an onion cell.

**UNIT 7: Photosynthesis and Respiration**

9. The figure below shows a species of an "ant plant" and one of its modified, hollow, sac-like leaves cut to show the activities taking place inside the sac.

- Name the process used by the plant to manufacture carbohydrates.
- Explain how this process is beneficial to the ants living in the modified leaves.
- Apart from adapting to mineral poor soils, suggest one other abiotic factor that the "ant plant" needs to overcome. Explain how you arrived at your answer.

## Topical Questions

Each topic includes a comprehensive set of multiple-choice and structured questions to prepare students for the examinations.

## Answers

Model answers are provided for self-evaluation and learning.

**ANSWERS**

**Unit 1**  
**Section A**

1	2	3	4	5	6	7	8	9
D	B	A	C	A	D	A	C	C
10	11	12	13	14	15	16	17	18
A	B	C	C	B	A	D	C	D

**Section B**

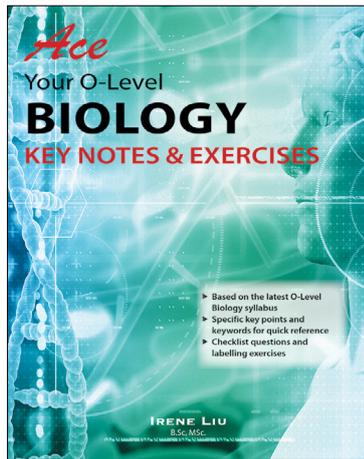
- A cell is the basic unit of life that carries out all life processes.
- | Animal cell                               | Plant cell                             |
|---|--|
| 1 No cell wall; Irregular shape           | Cell wall present; Regular shape       |
| 2 No chloroplast; Smaller central vacuole | Chloroplast present; One large vacuole |
- |              |               |
|--------------|---------------|
| Jelly bean   | Vacuole       |
| Rail         | Nucleus       |
| Plastic bag  | Cell membrane |
| Thick liquid | Cytoplasm     |
- Nucleus  
(ii) The nucleus contains chromosomal genetic material which control cell division/production.
  - Red blood cell has circular biconcave shape; smooth does not have a fixed regular shape; no nucleus in amoeba; has nucleus; Red blood cell has presence of haemoglobin in amoeba has no haemoglobin.
- The bacteria has no nucleus while the cells of the plant does. The plant cells do not have a flagellum which the bacteria do.

**Unit 2**  
**Section A**

1	2	3	4	5	6	7	8	9	10
B	A	A	B	D	D	C	C	B	B
11	12	13	14	15	16	17	18	19	20
B	D	B	A	B	A	A	C	A	D

**Section B**

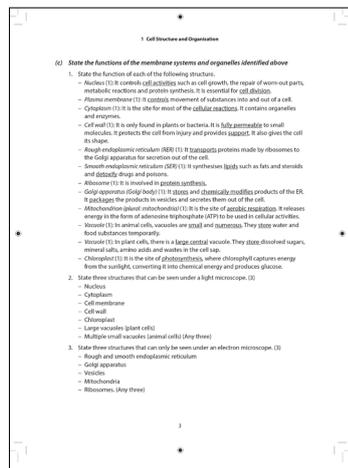
- Diffusion: Solute molecules move from a region of higher concentration to the cell/plane bag into the water in the beaker, which is a region of lower solute concentration.
  - Partially permeable membrane: Smaller solute molecules can pass through but not larger starch molecules.
- Osmosis is the net movement of water molecules from a region of higher water potential to a region of lower water potential through a partially permeable membrane.
  - (i) A: The water potential in distilled water is 0. No sucrose solution. (ii) The water potential of liquid B is higher than in liquid C. Water molecules move out of dialysis tubing containing liquid B, causing it to shrivel.
  - Cell membrane
- A, E, B, D, C (highest to lowest)
  - The concentration of sugar solution that potato disc A is immersed in is higher than potato disc C. The difference in the water potential between potato disc A and sugar solution is higher as compared to potato disc B and its solution, hence more water molecules will move out of potato disc A than B to osmosis.
  - Transport organs around the body from the lungs.
  - The arteries will have more red blood cells to transport more oxygen around the body. This will support efficient respiration during the competition.
- The water potential in the dialysis tubing is lower than that in the beaker. Solute molecules enter the dialysis tubing via osmosis through the partially permeable membrane.
  - Glucose being smaller molecules, can leave the partially permeable membrane of the dialysis tubing via diffusion. Sucrose being larger molecules, cannot escape the dialysis tubing.
- X
  - Y



ISBN: 9789814996228

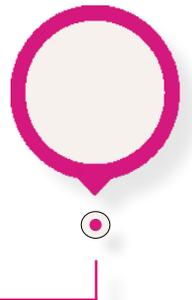
Most students find Biology very difficult to score in examinations because knowing the content does not always ensure maximum marks. In order to score well in the exam, certain details and specific keywords have to be incorporated into their answers. As key points and keywords are essential to obtaining a good score in the Biology exam, this book presents suggested answers keys for students, which can be used as a quick reference source, enabling students to save time on revision.

The answers are given in a question and answer format in this book. The questions are designed based on the learning outcomes in accordance with the latest O-Level pure Biology syllabus issued by the Ministry of Education of Singapore.



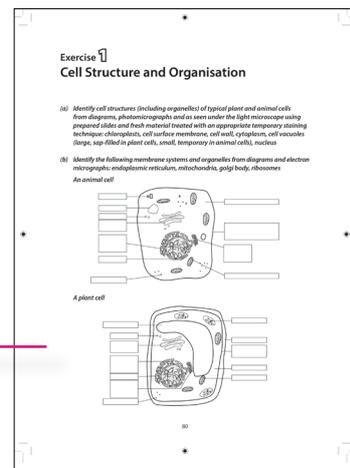
## Learning Points

Specific key points and key words are highlighted for effective revision.

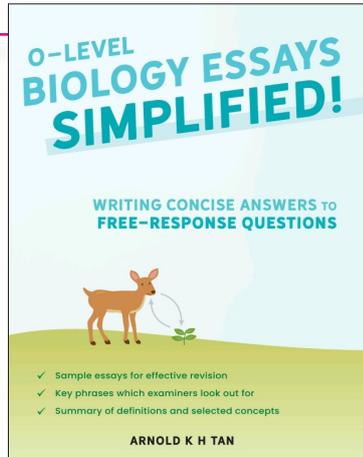


## Revision Questions

Comprehensive questions, such as diagram-labelling exercises, are included to prepare students for examinations.



# Biology Essays Simplified



ISBN: 9789814761796

Master the skill of answering O-Level Biology Essay Questions by using examiner-style phrasing to construct accurate responses. With a comprehensive selection of 239 free-response questions, students will learn how to write essays that score well at the examinations.

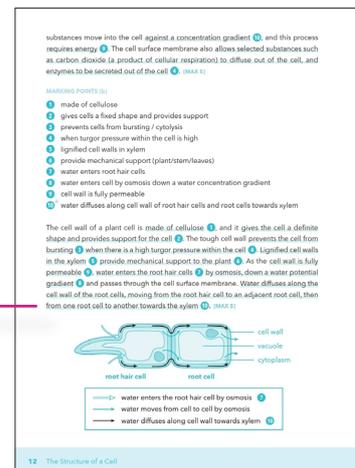
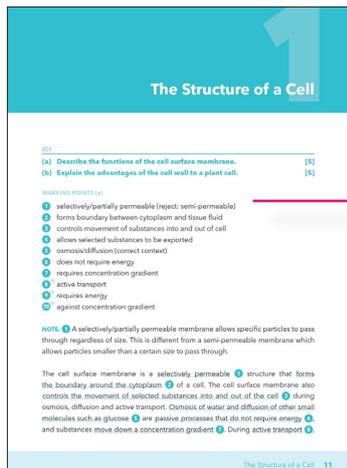
The sample essays included in this book demonstrate how students can organise the relevant marking points into a concise answer.

## Model Essays

Model essays are provided for students to learn how to write them effectively.

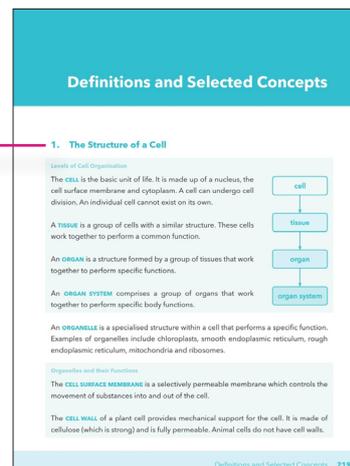
## Marking Points

Key phrases for scoring are highlighted under the marking points section for easy learning.

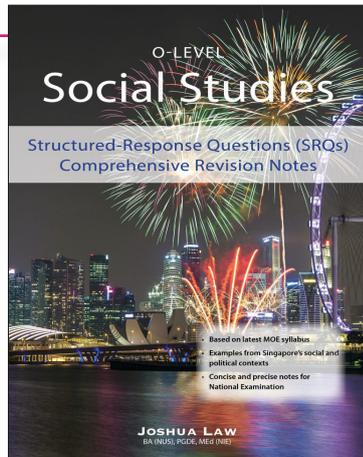


## Summaries

Important definitions and selected concepts are summarised in one section for quick referencing.



## Social Studies SRQs



**SRQs Comprehensive  
Revision Notes**  
ISBN: 9789811417535

O-Level Social Studies: Structured Response Questions (SRQs) Comprehensive Revision Notes is a collection of revision notes designed to teach students how to tackle Social Studies SRQs. Students will be presented with concise notes to equip them with the necessary content and knowledge required to answer SRQs at the O-Levels.

This book aims to prepare students for the O-Level examinations by providing ample resources to allow students to master the subject.

### CHAPTER 5

#### Why is there Greater Diversity in Singapore now?

##### 1. Immigration Policy

###### 1.1 Post-independence from 1965 to 1970s: Support labour intensive industries

- Singapore third-world country after independence in 1965.
- Setting up Jurong Industrial Estate marked the start of industrialisation; began with expansion of factories.
- High demand for workers addressed through issuing work permits to foreign workers seeking employment in Singapore in 1971.
- Workers needed in construction sites, factories, shipyards.
- Foreign workers not allowed to stay permanently or start families in Singapore.
- Influx of foreign workers with work permits supported labour intensive industries; made Singapore attractive place for foreign investment and helped achieve high economic growth.

30

##### O-Level Social Studies Structured Response Questions (SRQs) - Comprehensive Revision Notes

- ▶ Smaller firms could keep their operations going as they could obtain financing with reduced interest rates and increased subsidies.
- ▶ New businesses/small companies granted tax exemptions.
- The support was able to help local businesses stay afloat and retain employment; helped families maintain comparable standard of living during this recession. Singapore was thus able to survive Global Financial Crisis and still achieve growth of 1.5%.

##### 2. Economic Impact on Companies

###### 2.1 Positive Impact: Higher Profits/Market Share

- Developments in transport and technology have allowed many countries to benefit from globalisation; many companies are able to widen market reach by expanding their production and sales of goods worldwide.
- Expansion benefits come in terms of higher profits and larger market share, but there is also increased competition.
- MNCs can obtain higher profits by setting up operations in different locations; allows access to new markets abroad, access to lower labour costs and cheaper resources like land and raw materials.
- American companies dominate global companies as they take advantage of opportunities arising from global economy. Example: Walmart in China through understanding of the markets and culture of a different market; Walmart opened and became popular in China, enabling them to benefit from higher profits.
- ▶ Singapore government help (loans, grants etc) enables companies to take advantage of opportunities presented by globalisation. Example: beverage manufacturer Super Group Ltd identified long term potential of relatively 'spicy' markets like Thailand and Myanmar. Super gained the trust of consumers through tight quality control of its products and expanded sales to markets, gaining higher profits.

##### O-Level Social Studies Structured Response Questions (SRQs) - Comprehensive Revision Notes

###### 2.2 Negative Impact: Lower Profits/Market Share

- Globalisation caused increased competition for companies, making it harder to compete for a share of profits in the global economy.
- A company must constantly innovate and reinvent itself to stay successful.

###### Small/Medium Enterprises (SMEs)

- SMEs are businesses with an annual turnover of less than \$100 million or total workers not exceeding 200.
- SMEs contribute more than 50% of economic output and 70% of employment in Singapore.
- Many SMEs are unable to compete with larger companies that offer the same products or services; unable to sustain operations due to lesser resources.

###### Responses by SMEs to globalisation

###### a. Innovation and understanding local conditions by SMEs

- Some SMEs can respond positively to competition as they understand local conditions and can appeal to locals.
- Example: MNI Holdings supplier of hard disk drives for US-based MNC Seagate; allowed MNI Holdings to carve out an important niche market and avoid intense competition from MNCs that could lower its profits.
- Example: Goh Hoo Jin Pie Ltd (New Moon and Mill) stays competitive by offering wide range of food products. Diversification allowed them to reduce dependence on one product and makes the company less vulnerable and more prepared to meet external shocks; ensures the company will remain stable.
- Example: Super Group Pte Ltd took control of manufacturing and quality processes. Helped Super maintain tight quality control of its products and compete effectively in markets where similar established quality beverage manufacturers have not ventured; enabled them to remain competitive.

65

##### O-Level Social Studies Structured Response Questions (SRQs) - Comprehensive Revision Notes

###### 1.2.3 Tensions arising from Singapore's integration policy

###### Economic tension

- Singapore is home to many MNCs and non-profit organisations run by foreigners; their presence adds to numerous jobs for the local economy, adds to economic vibrancy of the country.
- Some Singaporeans feel their job security has been compromised as they now must compete with immigrants.
- Immigrants are blamed for causing increases in prices, traffic congestion and greater breakdowns (MRT).
- Example: Survey in 2014 showed 73.2% of Singaporeans believed job opportunities will be reduced for local born Singaporeans if we have more immigrants. 53.9% also believed that the government attracted immigrants to Singapore at the expense of locals.
- This caused tension as some felt threatened and are not comfortable with the inflow of foreigners; they are against the influx of immigrants as they felt their needs being side-lined by the government.

###### Social Tension

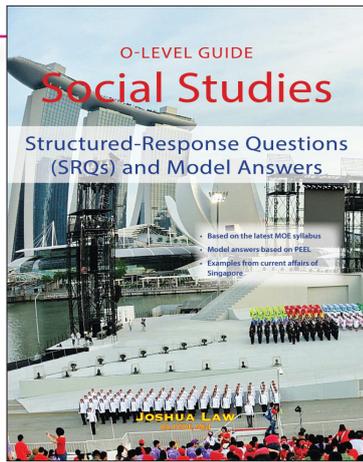
- Tensions have built up recently; some Singaporeans feel that the large number of immigrants have affected social cohesion.
- Some immigrants' inability to speak English and different social norms become obstacles to successful integration.
- Many felt the government has not integrated immigrants sufficiently and have begun to feel uncomfortable with the inflow of foreigners; caused tensions between locals and immigrants.

49



## Comprehensive Notes

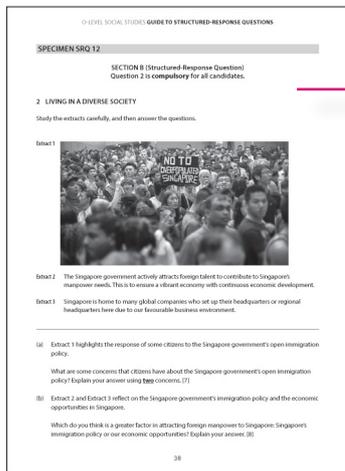
Includes examples on Singapore's social and political contexts.



**SRQs and Model Answers**  
ISBN: 9789811409400

In light of the many challenges that students face in answering SRQs, this Model Answers for Social Studies book will help students to master skills and techniques to approach assessment requirements of the latest Social Studies syllabus.

Written in the P.E.E.L format (Point, Elaboration, Explanation, Link), this guidebook will give students many exemplars on how to craft a high-level response answer. Using examples discussed in the new syllabus course book and relevant current affairs topics, students are presented with a variety of model questions and detailed answers for the three Social Studies issues.

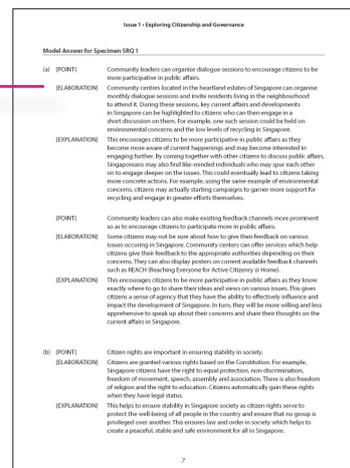


## Current Affairs

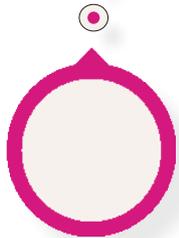
Questions are based on current affairs in Singapore.

## PEEL Format

Model answers are written in P.E.E.L format for students to learn to structure their writing.







## Additional IT Resources

Provides useful supplementary information for the topic.

Key Guide 1: Level Social Studies Secondary 4 (LRS4)

**Global Financial Crisis (2008)**  
<https://www.pedagogical.com/business/2008/02/2008-financial-crisis-overview/>  
<https://www.youtube.com/watch?v=PC0Z7A6u0d0>  
 Video from A Storm on How Singapore was impacted by the Global Financial Crisis  
<https://www.youtube.com/watch?v=0679WYQ28-5s>

**What is a sovereign wealth fund?**  
 Sovereign wealth funds (SWFs) are state-owned investment funds owned by national governments and financed by the country's foreign currency reserves (dollars, euros, yen), often through their central banks or through direct investments.  
 The term sovereign wealth fund was introduced in 2005 but the first SWF was introduced in 1953 by the government of Kuwait (Kuwait Investment Authority, a commodity SWF).  
 These funds are now major players in the world financial markets. The combined assets of the major SWFs is estimated at US\$1.1 trillion in assets under management as of March 2015.  
 Singapore has two sovereign wealth funds:  
 • Government of Singapore Investment Corporation (GIC Private Limited), with around \$344 billion, founded in 1981 and  
 • Temasek Holdings, with assets of \$193 billion, founded in 1974.

**European Debt Crisis (2009)**  
 The European debt crisis occurred during a period when several European countries faced the collapse of their financial institutions and high government debt. In 2008, Ireland's banking system collapsed and Greece, Portugal, Ireland, Italy and Spain. Many European businesses and economies were badly affected. The European Union, led by Germany and France, struggled to support these members. They turned to the IMF (International Monetary Fund) and the ECB (European Central Bank) and IMF (International Monetary Fund).

**Dealing with economic downturns**  
 1. Many developed countries took extreme measures to deal with the Global Financial Crisis because the potential damage to their financial systems was immense. In Singapore, the following measures were taken to deal with the 2009 Global Financial Crisis.  
 2. A S\$25 billion Resilience Package was introduced as part of the Singapore Budget 2009 to help Singapore tide over the crisis. Singapore was able to do this because of its large reserves.  
 • The most important of this was the Jobs Credit Scheme, which gave businesses a cash grant based on the wages of Singapore and PR employees if workers were all employed by the firms at the end of three months. This was to encourage businesses to continue to hire workers.  
 • For businesses, reliable Singapore businesses were able to continue to get bank loans and credit to do business. The idea was to get banks to continue to lend money to them.  
 • Other companies were given tax exemptions, which means that they paid little or no taxes.

STRATEGIES TO ANSWERING EXAMINATION QUESTIONS  
 CHAPTER 8  
 HANDLING SOURCE-BASED CASE STUDIES (SBCS)

**HANDLING DIFFERENT KINDS OF SBCS**  
 This section covers the different kinds of source based questions that you may encounter. Some teachers categorise them into six broad ABs.

**Inference questions**  
 1. To infer means to explain the reasoning involved in making a conclusion or judgment on the basis of circumstantial evidence and prior conclusions.  
 2. In such questions, you are making a deeper conclusion. It goes beyond what some information.

**Inference questions that test the 'message' of the source**  
 1. Some of the questions take this form:  
 • What can you learn from Source A about [a certain issue]?  
 • Do you think that Source A supports [a certain issue]?  
 • What can you infer about ...  
 • What is the message of Source A?  
 2. Your evidence must be derived and observable from the source.  
 3. It is important to go beyond just quoting or paraphrasing the source. Explain your understanding of what the problem is, the proposed solution or the its context.

**Figure 10.2**  
 Answering inference-type questions

1. Read the question carefully. Identify the source and the question type.  
 2. Read the source carefully. Identify the main message and the supporting details.  
 3. Answer the question using the main message and supporting details from the source.

12 HANDLING STRUCTURED RESPONSE QUESTIONS (SRQs)

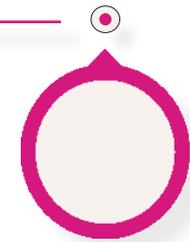
1. As a guideline, there are two kinds of SRQ questions assessable in the Social Studies syllabus.

Type of question	Response skills needed for such questions
Reasoned argument and problem solving	<ul style="list-style-type: none"> <li>Explain causes of a social issue/problem.</li> <li>Explain the consequences/impact of a social issue/problem.</li> <li>Suggest strategies to resolve social issues.</li> </ul>
Explanation/judgment	<ul style="list-style-type: none"> <li>Explain factors that cause a social issue.</li> <li>Explain consequences/impact of a social issue.</li> <li>Compare and weigh different factors on a social issue.</li> </ul>

**Example 1** Explain 1 states that there are more foreigners taking up citizenship in Singapore. In your opinion, how can Singapore integrate new citizens into Singapore's society better? Explain your answer using two strategies.  
 Note: N-Level students are required to come up with one cause or recommendation.

**Example 2** Explain 2 used job about the importance of neoconfucianism and providing a stable for everyone as principles of good governance in ensuring Singapore's political and economic stability. Do you think that neoconfucianism is more important than providing a stable for everyone in building a more inclusive Singapore? Explain your answer.  
 Note: N-Level students are required to explain two factors without weighing them.

**10.1 HEADING EXTRACTS/STIMULUS IN STRUCTURED RESPONSE QUESTIONS (SRQs)**  
 1. SRQs come with extracts or stimulus that take the following form.  
 • Text-based extracts (letter, text or extract)  
 • Non-text extracts: Cartoons, statistics, photographs  
 2. There are two important guidelines in reading such extracts for SRQs.  
 • The text or stimulus and should not be analysed as Source-based Questions. This means that you do not quote or make reference to it in your answer.  
 • The main purpose is to get you think about a problem, issue or concept that is highlighted in the extract.



## Answering Strategies

Various chapters are written with diagrams and steps to provide both visual and textual models on how to deal with Source Based Case Studies (SBCS) and Structured Response Questions (SRQ).

## Examination Practice

A range of SBCS and SRQs for students to practice, with differentiated questions for N- and O-Level students to try out at their own pace.

CHAPTER 10 - Examination Practice Papers

**EXAMINATION PRACTICE 1**

**Section A (Source-Based Case Study)**  
 Question 1 is compulsory for all candidates.

1. BENEFITS AND CHALLENGES OF GLOBALISATION ON SMALL MEDIUM ENTERPRISES (SMEs) IN SINGAPORE

Study the Background Information and the sources carefully, and then answer all the questions.  
 You may use any of the sources to help you answer the questions, in addition to these sources which you are told to use. In answering the questions, you should use your knowledge of the issue to help you interpret and evaluate the sources.

(a) Study Source A  
 What is the message of the cartoon? Explain your answer. [5]

(b) Study Source B and C  
 How similar are these two sources? Explain your answer. [6]

(c) Study Source D  
 Does Source D prove that the use of new generation resource planning technology (ERP) enables SMEs to succeed in a globalised economy? Explain your answer. [7]

(d) Study Source E  
 Why do you think the Prime Minister made this speech? [7]

**For O-Level students**  
 (e) 'SMEs in Singapore can succeed in today's world to become internationally-oriented companies' Using sources in this case study, explain how far you would agree with this statement? [16]

**For N-Level students**  
 (f) How far do the sources show that SMEs in Singapore can succeed in a globalised world? Explain your answer. [16]

STRATEGIES TO ANSWERING EXAMINATION QUESTIONS  
 CHAPTER 11  
 SUGGESTED ANSWERS TO EXAMINATION PRACTICE PAPERS

**EXAMINATION PRACTICE 1**

**Section A (Source-Based Case Study)**  
 1. Benefits and Challenges of Globalisation on Small Medium Enterprises (SMEs) in Singapore

(a) Study Source A  
 What is the message of the cartoon? Explain your answer. [5]

**Suggested answer**  
 L1 Surface description of the cartoon but an valid message 1 m  
 L2 Answer based on misinterpretation of the source 2 m  
 L3 Valid interpretation of the source, not explained using source details. 3 m  
 L4 Valid interpretation of the source, explained using source details. 4-5 m

**Example** The cartoon shows us that globalisation is a threat to local businesses (i.e. small and medium sized enterprises). This is seen in the cartoon where globalisation and localisation is portrayed as competitive forces in a boxing match. The larger boxer represents globalisation and MNCs, which have more resources, whereas the smaller boxer represents SMEs, which have fewer resources. In such a situation, the SMEs are seen as being disadvantaged. This satirises how that the message of the cartoon is to highlight the unfair competition that exists between MNCs and SMEs in a globalised world.

(b) Study Source B and C  
 How similar are these two sources? Explain your answer. [6]

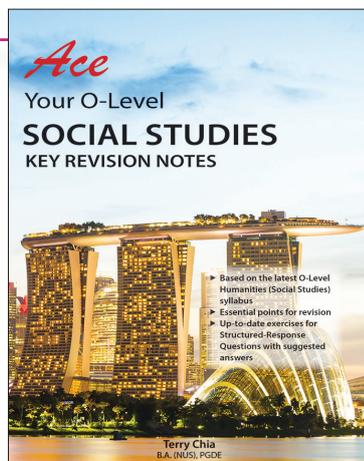
**Suggested answer**  
 L1 Similarity or difference, based on provenance/ source type 1 m  
 L2 Fuller matching of criteria when comparing  
 L3 Similarity or difference in content (must be valid matches). i.e. direct matching of content to make direct comparisons. 3-4 m  
 L4 Both aspects of L3  
 Example Both sources are similar because they reflect the difficulties that businesses face in getting local Singaporean workers to join SMEs.  
 This is seen in Source B when the forum letter relates the incident of how a woman wanted to join the SME but felt that as MNC or government job offered better prospects than SMEs. It cites that Singaporean workers don't have a "hunger to create value and take pride in working for SMEs" there by criticising Singaporean workers for their aversion to hard work and discomfort. This shows that Source B shows that businesses have difficulties in hiring local Singaporean workers.  
 This criticism against Singaporean workers is similarly seen in Source C. In this source, the writer gives the example of an international fragrance company that cannot find

## Answers with LORMs

Suggested answers are provided with Levels of Response Mark Schemes (LORMs) to allow students to learn how to structure their answers more effectively.



# Ace Your O-Level Social Studies



ISBN: 9789811493171

Part 1 of this book focuses on understanding the concepts in Social Studies. This book provides the essential points that students must know, as well as information and insights into Singapore as a nation, and her past and present, enabling students to possess a more well-rounded view of topics in the syllabus.

Part 2 of this book provides up-to-date exercises for Structured Response Questions with suggested answers. This serves as a learning guide on how answers are layered and argued. The suggested answers provide students with a well-structured approach to tackling examination-style questions and shows how answers are assessed. This will prepare them for examinations by equipping students with the essential skills and techniques to tackle the new syllabus questions in examinations.

## CHAPTER 1

### What Does it Mean for Me to be a Citizen of My Country?

#### 1. Different ways to be a citizen

**1.1 Citizenship shaped by legal status**  
What are citizens?  
Citizens of a country have certain rights granted to them such as freedom of religion, however they also have responsibilities towards their country and to follow its laws.

#### Ways to become a citizen

- By descent  
In order to gain citizenship by descent, a person must have a parent who is a citizen of that country.
- By country of birth  
A small number of countries grant citizenship to all those born in their country.
- By marriage  
In many countries, a person can become a citizen by marrying a citizen of that country.
- By naturalisation  
Many countries grant citizenship to a person who registers as a citizen after living in the country for a certain number of years. Some may also require the person to pass a test and/or to give up their original citizenship.

In Singapore, those seeking to become citizens through naturalisation must first apply for Permanent Resident (PR) status first.

**1.1.1 Citizenship in a democracy**  
Citizenship varies depending on what type of government a country has. In democracies such as France and the United States of America, citizens have the right to elect their representatives to govern the country. To understand what being a citizen in Singapore means, we need to understand what is a democracy.

#### What Does it Mean for Me to be a Citizen of My Country?

#### 1.2.1 Citizenship shared by identity

Citizenship can be defined by a shared national identity. A sense of national identity comes from a shared sense of belonging towards the same country. For example, Singaporeans share many aspects of their daily lives and share similar feelings about certain things.

**Example** This can be seen by how many Singaporeans take pride in our country being seen as a food haven that has all kinds of different food scattered across the country.

We also have common experiences.

**Example 1** Singing the National Anthem and taking the National Pledge during our school years.

**Example 2** Celebrating national holidays like National Day together.

#### 1.2.2 Citizenship shared by participation

Citizenship can also be defined by shared participation in a country's society. When a country's citizens feel closer to one another and the country, other positive outcomes may result, such as a willingness to care for others and work together to improve society. Besides having a sense of identity, participation in public affairs or matters of general concern in society (issues that are of general interest or concern to most people in society) also shapes a person's citizenship.

#### Conclusion

The three attributes that shape citizenship are legal status, having a sense of identity and participation in public affairs. Some people regard citizenship as having a series of rights that allow individuals the freedom to do as they choose within the law. There are also those who view citizenship as more than just a duty to follow the laws of the country. They see citizenship as also requiring participation in making a contribution to society. Finally, there are also those who believe citizenship would require sharing a common purpose and bond with fellow citizens. These attributes are closely related to one another.

**Example** Those without the legal status of citizenship, like refugees, would find it difficult to integrate and develop a bond with the citizens of their host country. Without a legal status, refugees will not be able to go through formal schooling, gain employment and establish themselves in the community. They would thus not have many of the common experiences that others in the country had and would not be able to participate in society as legal citizens can.

Hence, all these attributes are equally important in shaping citizenship.

## Essential Points for Revision

Key points for each topic in the syllabus are covered, with supporting examples.

## CHAPTER 12

### Model Structured-Response Questions and Suggested Answers

#### Issue 1 Exploring Citizenship and Governance

#### Practice One

Study the extracts carefully and then answer the questions.

#### Extract 1

National identity can be measured by two aspects: citizens' sense of belonging and their sense of obligation or patriotism to the nation. However, this sense of obligation or patriotism to the nation. However, this sense of obligation or patriotism to the nation. However, this sense of obligation or patriotism to the nation.

Some Singaporeans are too ready to blame the country of except themselves, on many issues, policies and happenings to distrust of the government and dilution of the sense of belonging to national identity.

#### Extract 2

The organised groups such as NGOs and VWOs in Singapore helping the government to improve the holistic development work done by organised groups in terms of social, economic and cultural issues.

#### Extract 3

Singaporeans from different backgrounds, including grass-roots private sector, academics and political office-holders, regard find some consensus on key issues.

#### Questions

(a) Extract 1 states that the dilution of Singaporean national id problem for Singapore.

In your opinion, what do you think is the impact of a weak identity? Explain your answer using two impacts. (7)

(b) Extracts 2 and 3 reflect on the roles of organised groups are government decisions.

Do you think the role of organised groups is more important in working for the good of society? Explain your answer. (8)

65

#### Suggested Answer

(a) Extract 1 states that the dilution of Singaporean national identity may become a very real problem for Singapore.

In your opinion, what do you think is the impact of a weak sense of Singaporean national identity? Explain your answer using two impacts. (7)

#### Describes + Explains factors

Award 6-7 marks for explaining two factors.

One impact may be the **occurrence of a brain drain**. With an increase in competitiveness to fulfil the citizens' needs such as employment and housing, due to globalisation, there might be a loss of trust in the country's government. When the citizens feel that their needs are not met, they may start to seek alternative places to live in. The desire to leave also rises steeply with higher education as more graduates are expressing their desire to seek employment in other countries and reside there as well due to a perceived better quality of life due to a lower cost of living. If uncontrolled by the sense of belonging created by a strong national identity working to keep Singaporeans from leaving, Singapore will lose its best and brightest people and the population will decline. As a result, Singapore will eventually find it harder to keep up to the demanding needs of the modern world as with the lack of natural resources, Singapore is dependent on her people to contribute to the progress of the country. Therefore, a strong national identity is important for Singapore to ensure her pool of population.

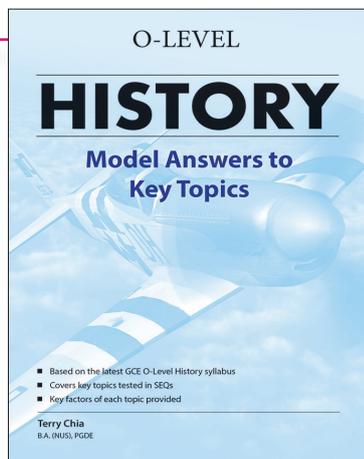
Another impact may be the **increase in individualism**. Without a strong sense of obligation to serve the country, people will start to put themselves first before others. They might not express the need to fulfil their responsibilities as a citizen. This will have negative social, economic and political consequences on Singapore. If this persists, it will be harder for the government to convince the people to agree to their political decisions. When the people's sense of belonging is lacking, they will find it hard to participate in policies implemented for the greater good. As a result, this will decrease the efficiency of the government in addressing the needs of the people and encouraging the growth of the nation. Therefore, a strong national identity is important to ensure that Singaporeans have a sense of responsibility to participate in helping the growth of the country.

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## Practices with Answers

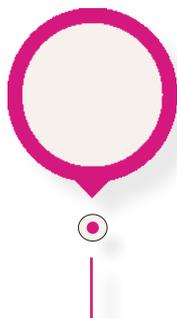
Structured Response Questions come with suggested answers and marking schemes to allow students to learn how to structure their answers more effectively.

# History Model Answers to Key Topics



ISBN: 9789811493188

This book is written for students taking the GCE O-Level History examinations. The book focuses on making History accessible through the provision of model essays for Structured-Essay Questions. The essays capture the main points of the content covered in the GCE O-Level History Syllabus (Code: 2273) in a format similar to what students might encounter in the O-Level examinations. Students can attempt the essays from the list of practice questions, after which, they can refer to the model essays to check their scripts.



## Essay Writing Skills

The first chapter of the book provides tips on how to answer different types of essay questions.

### 1 Essay Writing Skills

#### STEPS TO ANSWERING AN ESSAY QUESTION

When encountering a history essay question, here are some steps you can take to produce good answers.

#### 1. Identifying the requirements of the question

There are two types of history questions in the GCE O-Level Elective History Syllabus (Code: 2273). They are typically divided into a 6a type question worth 8 marks and a 6b type question worth 12 marks. There is a degree of overlap between the kind of answers expected from each type of question. However, there are also differences. Let us examine these similarities and differences.

Type of question	Requirements
(a) question	Explain two factors
(b) question	Explain two factors and weigh their importance in comparison to each other

Let us look at examples of such questions to better understand the difference.

#### (a) question

Explain two reasons why the League of Nations was weak in maintaining peace. [8]

In such a question, the topic that your essay should be written on is spelled out for you. In this case, it is the reasons why the League of Nations (LON) was weak in maintaining peace. To answer this question, you will need to write out two paragraphs (one for each reason) that explain the factors that answer the question.

You will need to identify two of the weaknesses of the LON and then expand on them. For example, in this case, you can choose to expand on the limited membership of the LON and the post-World War I (WWI) attitudes of the major powers as your factors.

We will explore how to write such a paragraph later.

#### 1 - Essay Writing Skills

Let us explore some examples of PEEL paragraphs for the 6a type question below.

Explain two reasons why the League of Nations was weak in maintaining peace. [8]

Point	Elaboration
The attitude of the major powers was a reason why the LON was weak in maintaining peace.	The major powers viewed their own concerns and interests as more important than the LON's goal of maintaining world peace and security.
Example	Britain and France had suffered greatly during WWI and they were unwilling to fight another war. At the same time, the United States of America (USA) followed the policy of isolationism, which made the LON even more ineffective as the country which had suggested the setting up of the LON was not involved in its decision-making processes.
Link	Thus, they allowed acts of aggression to go unopposed which weakened the LON as it was unable to maintain peace in the world.

Note that in some cases you may also shift around the position of the example and elaboration portions of a paragraph and instead use the elaboration to expand on how the example relates to the factor raised in the point. See the example below:

Point The limited membership of the LON was a reason why it was weak in maintaining peace.

Example For example, the USA was never a member of the LON. Moreover, countries like Germany and Russia were not allowed to join the LON initially.

Elaboration The absence of the USA deprived the LON of the support of the world's most powerful country, leaving it without the USA's strength and wealth. On the other hand, Germany was not allowed to join at first as it was considered to have been guilty of causing WWI, while Russia was not accepted as it had recently been taken over by a communist government.

Link This meant that some countries were cut out of the decision-making process and were therefore unable to go along with the LON's policies, thus making the LON weak. The limited membership thus weakened the LON greatly as it needed strong countries as members in order to enforce its sanctions effectively.

Writing two paragraphs in this format is enough to answer a 6a type question. However, to answer a 6b type question, we must also weigh the relative importance of the two factors.

## 2 Impact of World War I in Europe

#### BREAKDOWN OF TOPICS

To assist you in answering the sample questions for this chapter, here is a breakdown of the various topics it covers.

- The aims and motivations of the various countries that drafted the Treaty of Versailles at the Paris Peace Conference
  - Factor 1 The USA's aims and motivations
  - Factor 2 France's aims and motivations
  - Factor 3 Britain's aims and motivations
  - Factor 4 Italy's aims and motivations
  - Factor 5 Japan's aims and motivations

- The Impact of the Treaty of Versailles on Germany
  - Factor 1 German humiliation
  - Factor 2 German territorial reductions
  - Factor 3 German military weakness
  - Factor 4 German economic weakness
  - Factor 5 Self-determination and the creation of new borders

- Weaknesses of the LON
  - Factor 1 Post-WWI attitudes of the major powers

#### Structural weaknesses

- Factor 2 Lack of authority and credibility
- Factor 3 Limited membership of the LON

#### Successes and Failures of the League of Nations

- Factor 4 The LON's successes at handling territorial disputes in the 1920s
- Factor 5 The LON's failures at handling territorial disputes in the 1930s

## Breakdown of Topics

Each topic is broken down into their various factors to aid students in answering the sample questions for each chapter.

## Model Answers

A model answer is provided for each sample question as a reference.



#### GCE O-Level History Model Answers to Key Topics

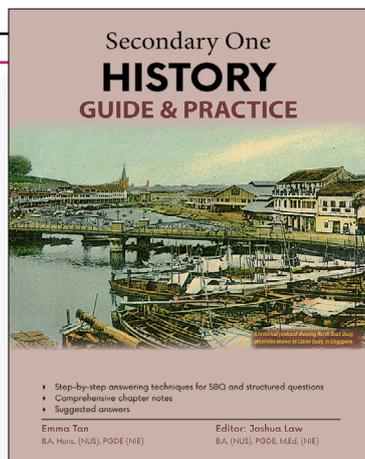
Question 1 Explain how the implementation of the Treaty of Versailles brought about peace in Europe in the 1920s. [8]

#### Model Answer

The implementation of the Treaty of Versailles brought about peace in Europe in the 1920s as the military reductions forced on Germany negated its ability to start another war. The harsh limitations placed on Germany's armed forces meant to ensure that Germany would not be able to start another war. For example, the size of the German army was limited to only 100,000 men. In addition, the size of its navy was also limited to 15,000 tons. Finally, Germany was also not allowed to have an air force, tanks and submarines. The aim of all these restrictions was to ensure that Germany would no longer be in a position to use its military force to start another war and threaten its neighbours such as France again. Furthermore, this also meant that Germany was significantly less able to defend itself against the Allied powers in the event of a military attack from its neighbours. The demilitarisation of the Rhineland also meant that Germany was not allowed to defend its borders with France. As such, this brought about peace in Europe in the 1920s as the terms of the Treaty of Versailles had negated the threat that had previously been exhibited by Germany.

The territorial reductions, the War Guilt Clause and the reparations that it justified provided a severe demerence to Germany and other potential aggressor states while providing closure for states that were damaged by Germany and the fighting. As part of the Treaty of Versailles, Germany was left with extremely punitive terms. For a start, the Germans had to accept the War Guilt Clause, whereby Germany had to take complete blame for causing WWI according to Article 231 of the Treaty. Germany also had to pay compensation for all the damages caused in the war. The reparations demanded in 1921 were 16,600 million. Finally, to make things worse for Germany, the Treaty of Versailles also saw to the removal of key German territories. Much of the land that belonged to Germany before the war was reallocated amongst the Allied powers. For example, Germany lost all its overseas colonies in Africa and the Asia-Pacific, Alsace-Lorraine and the profits from the coal-producing Saar region was handed over to France, and the territory between Germany and East Prussia became the Polish Corridor. Finally, Germany was also banned from uniting with Austria. The economy heavy reparations meant that Germany was designed to avoid a sticky inflation message to both Germany and any other potential belligerents to ensure that they would refrain from starting a new war. In addition, by punishing Germany severely, the Allied powers had also missed out some form of justice, allowing those states devastated by the war to move on. As such, the Treaty of Versailles had brought about peace in Europe in the 1920s by allowing countries leading justice to move on while also sending a strong message to deter countries from causing instability in the region.

## Secondary One History Guide & Practice



This guide provides comprehensive Source Base Question (SBQ) skills and chapter content notes to prepare students for the examinations. It consists of the following features.

ISBN: 9789814996464

### Answering Techniques for Section A and Section B

#### Section A: Source Based Questions (SBQ)

##### SKILL Inference

###### What is an inference?

- ▶ Inference is a conclusion about the past that can be obtained using details from sources.
- ▶ Inference questions are WHAT questions.

###### Examples of inference questions

- ▶ What does the source tell you about Singapore before 1819? Explain your answer.
- ▶ What can you learn from the source about Raffles? Explain your answer.
- ▶ What can you infer from this source? Explain your answer.

Example: What does Source A tell you?

###### Answering format

**Inference:** Source A tells me that ...

**Explain:** This is because ... as ...

**Support:** This can be seen in the source ...

**Evidence gathered from the source that you used to make your inference.**

**Written source (Text):** Quote directly from the source e.g. This can be seen in the source "sentence/phrase from the source."

**Pictorial source (Image):** Describe details from the source

\*Note: If the source has 2 inferences, do IS twice.

### Step-by-step Answering Technique for SBQ and Structured Questions

The skill notes provide student with the ability to identify question types and apply the appropriate answering format accordingly. Common mistakes and a success criteria checklist for each question type is also provided for students to avoid making careless mistakes and score well.

### Comprehensive Chapter Notes

The chapter notes are organised and written in a concise manner for students to recall important details to be written for the structured questions.

#### Answering format

##### Point:

- ▶ What is the main point?
- ▶ Is the point given? If not, state the point.
- ▶ If the point is in the question, copy the given point and the question focus.
- ▶ Use the same phrasing and words from the question in order to directly answer the question

**Example 1:** Explain the external developments that impacted Singapore's economy from 1869 to 1942.

**Point is NOT given, you should state the point.**

**Example:** One external development that impacted Singapore's economy from 1869 to 1942 was the opening of Suez Canal.

##### Explanation:

Provide explanation - must refer to the question focus (what the question is asking for)

- ▶ What? - Give an elaboration on what the point means
- ▶ Why? - Explain how/why the point came about

##### Example:

Provide relevant examples/evidence to support your point

- ▶ Examples must be specific and detailed
- ▶ Who? What? Where? When? (numbers, dates, etc)

##### Link:

Link the point/factor back to the question

- ▶ Explain the impact/consequence of the point in relation to the question
- ▶ Do not just repeat the point

##### Success Criteria:

I have done the following for the Structured Question:

2 paragraphs of PEEL

- ▶ P: Answered the question by stating the point clearly
- ▶ E: Explained the "what" and "why" of the point
- ▶ Ex: Provided relevant examples to support the point, by using SWHH as far as possible
- ▶ L: Linked back to the Question Focus by explaining the impact of the point. Did not merely repeat the point.

### Suggested Answers

The suggested answers are written according to schools' Level Of Response Marking (LORMS). This allows students to understand and check for their level of understanding for each question and to develop better answering techniques.

#### INTRODUCTION

##### What is History all about?

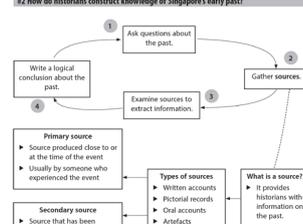
#### #1 Introduction to History

What are some words that come to your mind when you think of "History"?

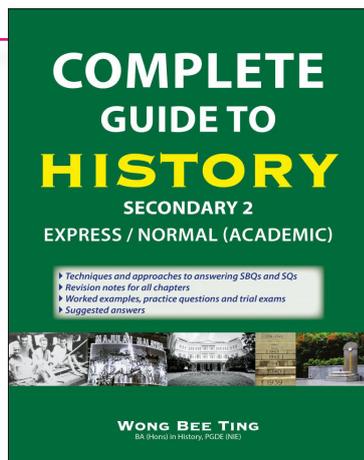
**What is History?**

History is the study of the past.

#### #2 How do historians construct knowledge of Singapore's early past?



## History Complete Guides



ISBN: 9789811111730

This book is written as a guide for Lower Secondary students studying for their History examinations. All History examinations test students' abilities in handling Source-Based Questions (SBQs) and Structured Questions (SQs). This book offers guidance and tips on how to answer SBQs and SQs well and ace the examinations.

This book comprises the following:

- Chapters 1–4: Skills in answering SBQs
- Chapter 5: Skills in answering SQs
- Chapters 6–9: Revision notes for the Secondary Two History syllabus and practice questions
- 2 Semestral Examinations

CHAPTER 2 – Inferring on Purpose

**Worked Example 2 – Full of Singapore**

**Study Source B**  
Why do you think this was published? Explain your answer. [6]

**Source B** *Adapted from a South Times editorial on 8 December 1941.*  
We have come to Malaya. Let us be frank at once that the situation is well in hand. There is no cause for panic, but there is need for forthright personal discipline and instant obedience to every order given by an officer of the forces, the police and the defence services. The first air raid on Singapore shortly after three o'clock this morning (8 December 1941) was repulsed in only a few minutes.

Step	Details
<b>Task-type: ATQ</b>	
<b>Text-type published because:</b>	
1. Context	Japanese troops had landed on Malaya in an attempt to conquer Malaya and Singapore. This had caused alarm among the people in Singapore.
• Trigger event + Concern that makes it necessary to produce the source.	
2. Message	The Japanese forces were no match for the British forces and everything was under British control.
• Infer on what the source is trying to tell you.	
• Quote the evidence.	This is evident from Source B, which states, "The situation is well in hand... The first air raid on Singapore shortly after three o'clock this morning was repulsed in only a few minutes."
3. Audience	People in Singapore.
• Read the proemium to find out about the target audience.	
4. Outcome	To reassure the people in Singapore that the British had everything under good control so that they would continue to support the British forces and cooperate with them.
• Feeling + Action	

**Suggested answer**

This was published [1] because Japanese troops had landed on Malaya in an attempt to conquer Malaya and Singapore [2]. This had caused alarm among the people in Singapore. This was published to convince the people in Singapore [3] that the Japanese forces were no match for the British and everything was under British control [4]. This is evident from Source B, which states, "The situation is well in hand... The first air raid on Singapore shortly after three o'clock this morning was repulsed in only a few minutes." This was published to reassure the people in Singapore that the British had everything under good control so that they would have confidence in the British [5] and continue to support the British forces and cooperate with them [6].

### Worked Examples

Step-by-step worked examples to demonstrate how to answer the questions using the author's suggested steps.

### Revision Notes

Revision notes include mind maps/graphic organisers to give an overview of the key points covered in the chapter. There is also a glossary of key terms and definitions, and detailed descriptions and explanations (wherever appropriate) of causal factors.

Chapter 9

REVISION NOTES

HOW FAR WERE PEOPLE'S LIVES TRANSFORMED AFTER INDEPENDENCE?

OVERVIEW

Developments that took place from 1965 to 1975

- 1. Promoting a common identity
- 2. Building Singapore's defences
- 3. Promoting economic development
- 4. Providing housing

**GLOSSARY**

**Conscription**  
Refers to compulsory military service.

**Financial hub**  
Refers to a city, a country or a region that is considered to be a major center for providing financial services such as banking.

**Infrastructure**  
Refers to basic facilities that are needed to support a society, examples are: communications, transport systems and power supply network.

**Multinational corporations (MNCs)**  
Refer to huge companies that have their offices and factories in more than one country.

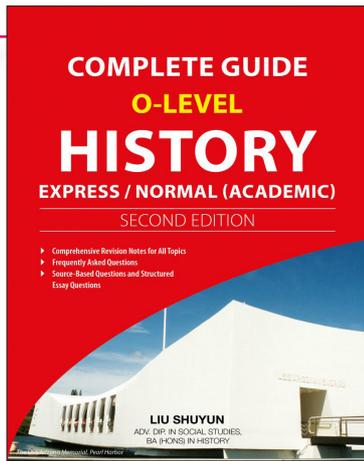
**Squatter settlements**  
Refer to areas where people live that do not belong to them or have not been approved for residential purposes by the government. Such areas are often characterised by poor living conditions and lack of basic services.

REVISION NOTES

Development that took place from 1965 to 1975

**Point 1** Promoting a common identity  
*Source: (Source not available) (Source)*  
After independence, the government was concerned that some people did not feel a sense of belonging to Singapore and were indifferent toward Singapore's future. The government wanted to develop a common identity and instil a strong sense of belonging and loyalty among the people.  
(a) The national symbols were important means to forge a common identity in the people.  
• National Flag created in 1959 following Singapore's attainment of internal self-government.  
• State Crest  
• National Anthem  
• National Pledge created in 1965 following Singapore's independence.  
(b) Foster a sense of belonging where men of different races and backgrounds bond together as they undergo military training.

**Point 2** Building Singapore's defences  
*Source: (Source not available) (Source)*  
Strategies to build up Singapore's defence forces  
It was urgent to develop Singapore's own defence forces quickly because:  
• Events such as the 1964 race riots and the Indonesian Konfrontasi showed that the lack of a strong defence force made Singapore vulnerable to external and internal threats.  
• British decision to withdraw its military forces from Singapore in 1971 meant that Singapore was left with a very small and weak defence force.  
(a) Introduction of National Service (NS)  
• To overcome the problem of limited manpower resources, the government introduced National Service, a form of conscription, whereby male citizens had to undergo compulsory military training for a period of time as national servicemen.  
• After completing their training, these men would continue to be part of the reserve forces.  
*Point 3* Promoting economic development  
• The introduction of NS helps to increase the number of men who are trained to receive and can defend Singapore in times of crisis. This helps to strengthen Singapore's defence forces and contributes to ensure the peace and security of the country.  
• In addition, it also helps to instil a sense of national loyalty and foster a national identity among the people as it provides a platform for men of different races and backgrounds to interact and bond with one another. This common experience and bonding builds camaraderie and promotes racial integration among the people.



ISBN: 9789811434327

Updated for the latest syllabus, Complete Guide: O-Level History Second Edition is written as a guide for teachers and students taking the History Elective Paper on Modern World History at the GCE O-Level examinations in Singapore. It may also be used as a revision guide for students studying Modern World History (1918–1991) in various examination systems across the world. Understanding the main features of the book will enable users to make effective use of this revision guide.



## History Bytes

Provide extra historical information which might be useful to gain deeper insight into the topics covered.

COMPLETE GUIDE: O-LEVEL HISTORY SECOND EDITION

**THE COURSE OF WORLD WAR I**

- The Central and Allied Powers fought to a stalemate along the Western Front, which had been dug from Belgium to the Swiss border. Barbed wire and protective fortifications were dug up and built and were seen. This tactic strategy of trench warfare resulted in hundreds of thousands of deaths.
- Between 1915 and 1917, more powers got involved in the war. Christian Turkey fought on the side of the Central Powers, Italy and the USA fought on the side of the Allied Powers.
- 1917 was a decisive year because the USA entered the war on 17 April. President Wilson also made it clear that the USA was entering the war based on the 14 Points.
- Russia was, however, knocked out of the war in October 1917 because of the Russian revolutions. The Bolsheviks overthrew and a new communist government was set up in Russia in October.

**HISTORY BYTE**

**The USA and World War I**  
The USA entered the war because of the following reasons:  
**Unrestricted submarine warfare:** The move that German submarines attacked ships carrying supplies to the Allies, from Europe to the USA. The USA was not at war, which resulted in the loss of civilian lives.  
**The Zimmerman Telegram:** This was a telegram sent from the German foreign secretary, Arthur Zimmermann to Mexico proposing a Mexican-German alliance in the case of war between the USA and Germany. It was leaked and published by US newspapers.  
**Wilson's Internationalism and 14 Points:** When the USA entered the war, US President Woodrow Wilson issued his 14 Points as the basis for a negotiated peace. It was to also make a new world order based on 15 ideas of internationalism. Some of the main ideas of the 14 Points include the following:  
• League of Nations: An international organisation to provide collective security and prevent war.  
• Self-determination: The right of people to freely choose their sovereignty and international political status without external interference.  
• Open diplomacy: Open agreements that are transparent and open for all to scrutinise. No secret alliances and agreements.

**HISTORY BYTE**

**Treaty of Brest-Litovsk in March 1918 between Germany and Russia**  
The new communist government in Russia signed the Treaty of Brest-Litovsk in March 1918 and the terms were very harsh on Russia.  
20% of its territory      24 million square km  
• Independence of Ukraine, Georgia and Finland  
• Russia and the Baltic states (Lithuania, Latvia and Estonia) to Germany  
• Other territories were given to Austria-Hungary and Turkey  
A large portion of its stock, coal and other mineral rights were given  
30% of its population      55 million people

CHAPTER 3 The Treaty of Versailles

**1. Germans resented losses of territory**

- Germany lost 13% of its territories and 12.5% of its population. These included the loss of Alsace and Lorraine to France; Eupen and Malmedy to Belgium; West Prussia to Poland; and the Saar coalfields to France for 15 years.
- Germans were also angry that they had to treat Poland as a great power. Poland had long been dominated and divided up between Russia, Germany and Austria-Hungary and had ceased to be a sovereign state for 123 years.

**Self-determination not applied**

- Wilson's principle of self-determination was applied to form new independent countries like Czechoslovakia, Hungary, Poland, Lithuania, Latvia and Estonia.
- However, Germans who lived in Eupen, Malmedy, Upper Silesia, the Sudetenland and elsewhere were not consulted. These territories were simply given away. Ethnic Germans who lived in these places saw their nationality changed overnight to become ethnic minority groups in newly created states.

**VIEWPOINT** **Alfred views to the Treaty of Versailles**

Those who see the Treaty of Versailles as a fair treaty look at the many different perspectives and concessions that were made between the USA, Britain, France and others. The result was the following:

- Germany was not reduced into a nation made up of small states.
- They still had an army of 100,000 men and six battle ships.
- The Treaty of Versailles was also not as punishing as the Treaty of Brest-Litovsk that the Germans had imposed on the Russians.

Comparisons of terms	Treaty of Versailles	Treaty of Brest-Litovsk
Territory lost	13%	25%
Population lost	12.5%	34%
Inhabitants lost	Nearly 50%	50%
Civilian deaths lost	10%	40%
Reparations	132 billion marks (4.6 billion pounds)	4 billion marks

4. Wilson's 14 Points were not formally adopted as the main principles necessary for hammering out the details of the Treaty of Versailles settlement. Germany had also ignored the 14 Points when it was announced in January 1918 because there was still German hopes for military success in that period. It therefore did not make sense to apply the question of self-determination in Germany.

## Viewpoints

Give different perspectives and historical interpretations of events.



## Frequently Asked Questions

Provides brief and comprehensible answers to questions which students might have.



COMPLETE GUIDE: O-LEVEL HISTORY SECOND EDITION

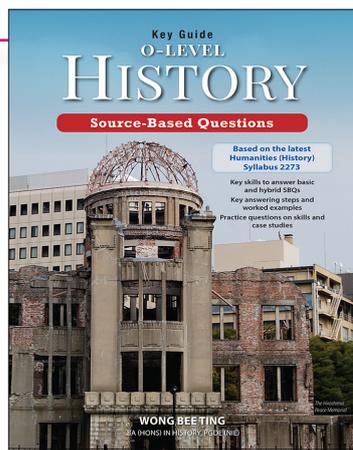
- To make matters worse, the aims of the League of Nations were threatened by the aggressive foreign policy of various countries.
  - Japan's invasion of Manchuria in 1931
  - Italy's invasion of Abyssinia in 1935
  - Germany's decision to walk out of the League of Nations in 1933 and its foreign policy aims of rearmament and expansion in Europe.

**FREQUENTLY ASKED QUESTIONS**  
Impact of World War I

- Why was Britain and France the two most important powers in the League of Nations?
  - It was because the USA did not want to involve itself in European affairs. The USA felt that World War I occurred because the European powers were competing with each other for colonies.
  - It was also because Russia was communist and Lenin wanted to spread communism overseas through revolutions. This made its government distrust the USSR. Moreover, in 1917 Lenin signed the Treaty of Brest-Litovsk, which ended World War I. The Allies saw this move as an act of betrayal to the Allies.
  - Germany was not invited to join because it was a defeated power in World War I and the European countries were determined to make Germany pay for the war economically and morally. That left the world with only two European countries that would be the most important members in the League – Britain and France.
- Did Germany want to enter the League of Nations?
  - Germany was at first not allowed to join because it was defeated in World War I. However, Germany became members of the league in 1926. This was under Chancellor Gustav Stresemann, who was willing to pay reparations and to improve relations with the West through such treaties as the Locarno Treaty.
- What is the Locarno Treaty?
  - The Locarno Treaty is a treaty signed between Italy, Britain, Belgium, France and Poland in 1926. Germany promised to keep the borders in the west and not to take back Alsace and Lorraine.
  - In 1926 the German foreign minister, Gustav Stresemann, proposed that France, Germany and Belgium should recognise an permanent their frontiers that was agreed at Versailles. This included the promise not to send German troops into the Rhineland and the acceptance that Alsace-Lorraine was permanently part of France. The French foreign minister, Aristide Briand, agreed with Stresemann's proposals and signed the treaty. However, as Germany refused to guarantee its eastern frontiers, France agreed to protect Poland and Czechoslovakia by signing treaties with them.
  - The Treaty of Locarno was signed in October 1925. This enabled Germany to be admitted to the League of Nations. However, Adolf Hitler revoked the treaty when he sent in the German army into the Rhineland in 1936.
- What is the Rapallo Treaty?
  - On 16 April 1922, representatives of the governments of Germany and the USSR signed the Rapallo Treaty at a World Economic Conference at Rapallo in Italy. The treaty re-established diplomatic relations, renounced financial claims on each other and pledged future cooperation between the USSR and Germany.

## History Key Guides

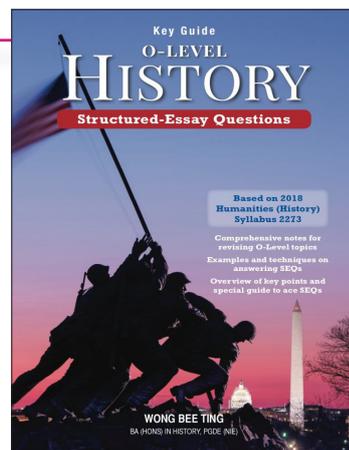
This series is written for students taking Humanities History (2273) at O-Level. The new O-Level Humanities History examination tests students' abilities in handling Source-Based Questions (SBQs) and Structured-Essay Questions (SEQs). These books provide notes, guidance, examples, practices and suggested answers on how to handle SBQs or SEQs effectively and score well in the examination.



### Source-Based Questions

ISBN: 9789811148040

This book includes key skills and steps in answering SBQs, worked examples, practice questions with suggested LORMs, writing frameworks and suggested answers.



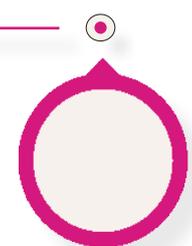
### Structured-Essay Questions

ISBN: 9789811148033

This book includes key revision notes, summaries, practice questions with suggested LORMs, mind maps, examples of examination questions and timelines of key events as well as a special guide to ace SEQs.

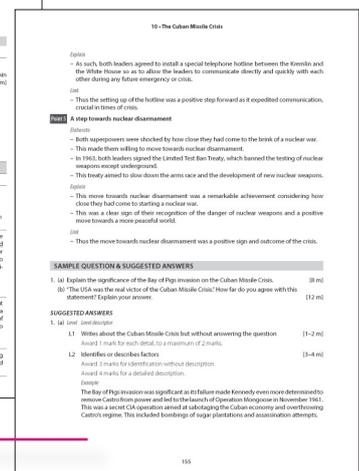
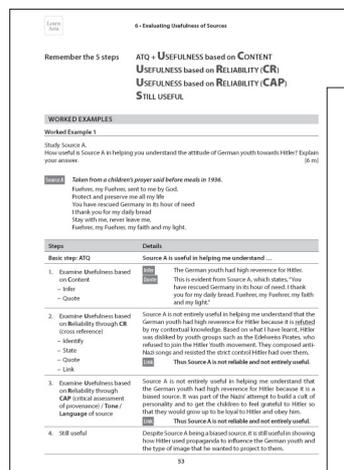
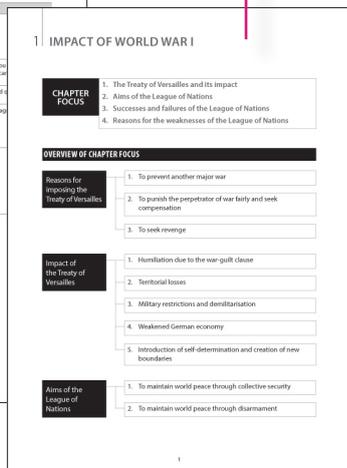
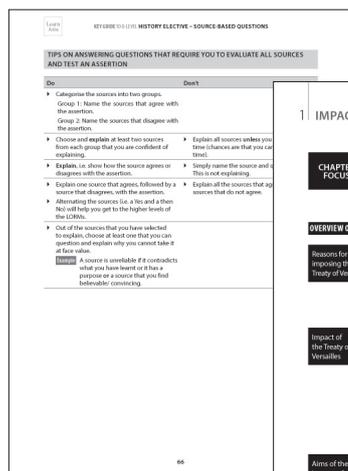
### Key Notes

Key skills or contents for each chapter are summarised in easy-to-read formats.

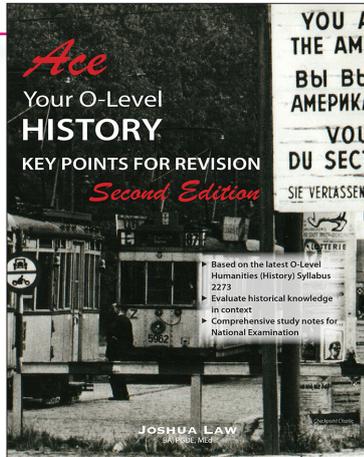


### Worked Examples/Answers

Examples are worked out with clear steps and guidance on scoring for the questions.



## Ace Your O-Level History



ISBN: 9789811440595

This book contains content notes on the World History for students taking History Elective. The aim is to engage students actively in historical enquiry so as to develop critical thinkers, enabling students to acquire knowledge and an understanding of history.

Through the contents of this book, students will be equipped with necessary historical knowledge, understanding, dispositions and skills to score well in their GCE O-Level examinations.



### MOE Syllabus

Chapters are based on the latest O-Level Humanities (History) Syllabus.

Contents		
Chapter 1	Impact of WW1 in Europe	1
Chapter 2	Stalin's Soviet Union	20
Chapter 3	Hitler's Germany	40
Chapter 4	Outbreak of World War II in Europe	60
Chapter 5	Defeat of Germany in WWII	71
Chapter 6	Outbreak of WWII in the Asia Pacific	80
Chapter 7	Japan's Defeat in WWII	94
Chapter 8	Reasons for the Cold War in Europe	103
Chapter 9	The Korean War	116
Chapter 10	The Cuban Missile Crisis	131
Chapter 11	The End of the Cold War	147

**Impact of the Treaty of Versailles**

- German Humiliation**
  - Germans angered at accepting total blame for the war – called the treaty 'dikktat' (dictated peace).
  - German people felt humiliated and wronged – felt they did not deserve it.
  - New Weimar government forced to agree.
  - Many accused politicians who signed the treaty as betraying German politicians called 'November Criminals'.
  - Weakened the credibility and support of the Weimar Government.
- German Territorial Reductions**
  - Land losses of about 13% of Germany's total land area.
  - By claiming territories that were valuable economically, it became difficult for Germany to pay reparations.
  - Germany lost colonies and resource-rich Rhineland, Saar coal region, Poland – injured German pride & economy.
  - Treaty prevented further German expansion through merger of territories – especially former Austria-Hungary.
  - Many German nationalists wanted German-speaking Austrians to join Germany.
  - When hard times came, extremists like Hitler played on weakness of German people.
- German Military Weakness**
  - Demilitarisation meant to ensure Germany would not start a war significantly less able to defend itself.
  - No other country made to demilitarise.

**2. Key terms of the Treaty**

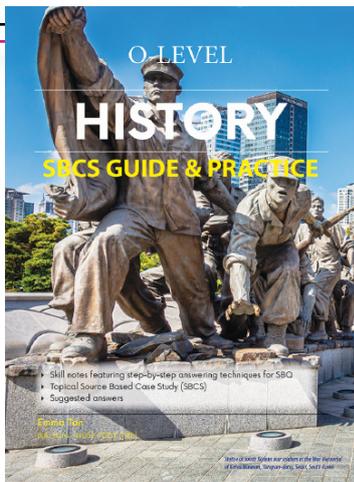
War Guilt Clause	Reparations	Armed Forces
Treaty stated that Germany had to accept blame for all the loss and damage to Allied countries.	Germans made to pay compensation to Allies for civilian damages (Reparations Committee set up) \$6.6 billion – mostly to Belgium & France.	Severe limits placed on German army/navy. Army limited to 100 000 men.
Germans felt this clause was unfair.	Germans made to pay unreasonable amount for the war, were concerned reparations would cripple them.	Navy restricted to 6 battleships, 24 smaller ships, no submarines, aeroplanes/tanks/heavy guns banned.
Felt that responsibility should be shared.		German troops not allowed into Rhineland (became demilitarized buffer zone).
		Germany felt that an army of 100 000 men was not enough to defend Germany. It was also unfair that only Germany was disarmed (not the UK or France).

### Comprehensive Notes

Notes are presented in point and table forms for students to study more efficiently for exams.



## O-Level History SBCS Guide & Practice



ISBN: 9789814996433

Upper Secondary History Elective: SBCS Guide & Practice provides comprehensive Source Base Question (SBQ) skills to prepare students for the examinations. This book consists of the following features:

### Step-by-step Answering Technique for SBQ

The skill notes provide student with the ability to identify question types and apply the appropriate answering format accordingly. Common mistakes and a success criteria checklist for each question type is also provided for students to avoid making careless mistakes and score well.

#### Chapter 1 Notes on SBCS Skills

##### SKILL INFERENCE

Inference questions are WHAT questions.

##### Examples of Inference Questions

- What can you infer about...? Explain your answer.
- What does the source show you about...? Explain your answer.
- What does the source tell you about...? Explain your answer.
- What is the message of the cartoon? Explain your answer.

Suggested Answering Frame: IEE + CK

**I** nfer **E** xplain **E** vidence **C** ontextual **K** nowledge

Sample: What can you infer about Source A? Explain your answer.

Step 1 Use the IEE method to address the question. Remember to explain your inference.

I can infer from Source A that \_\_\_\_\_ (I) as \_\_\_\_\_ (E). This can be seen from the source's \_\_\_\_\_ (E).

If there is a second inference: I can also infer from Source A that \_\_\_\_\_ (I) as \_\_\_\_\_ (E). This can be seen from the source's \_\_\_\_\_ (E).

##### Step 2 Provide Contextual Knowledge

Based on my contextual knowledge, \_\_\_\_\_ (CK). Provide some factual information on the topic that either supports or disagrees with the inferences you have made from the source(s).

#### O-LEVEL HISTORY SBCS GUIDE & PRACTICE

##### SKILL PURPOSE

Purpose questions are the WHY questions.

##### Examples of Purpose Questions

- Why do you think the cartoonist drew this cartoon? Explain your answer.
- Why did Stalin make this speech? Explain your answer.
- Why was the poster published? Explain your answer.
- What is the purpose of the source? Explain your answer.

Suggested Answering Frame: PAMIE + CK

**P**urpose word **C**ontextual **A**udience **M**essage **I**mpact **E**vidence **K**nowledge

##### What does PAMIE stand for?

- P**urpose: What purpose words involve an action. Include words like: For positive: *praise, encourage*. For neutral: *convince, persuade, influence, appeal*. For negative: *Mock, criticise, condemn, criticise*.
- A**udience: Who is this source targeted at? People from which country or community (i.e. gender, race, age group)? Or could it be the international community as a whole?
- M**essage: What do you think this source is trying to tell you? Make an inference, remember to explain here.
- I**mpact: What will the audience do after looking at the source? Take note the impact must be an action done by the audience you have identified earlier. i.e. This is so that the Russians (A) will support Stalin's 5 year plans and work harder for the country.
- E**vidence: This can be seen from the source, "..."
- CK** Contextual Knowledge: Based on my contextual knowledge, ...

### Topical Source Based Case Study (SBCS)

Each SBCS is set according to the relevant examination format. This allows students to be familiar with the national examination style so that they can be prepared for the varied question types.

### Suggested Answers

The suggested answers are written according to schools' Level Of Response Marking (LORMS). This allows students to understand and check for their level of understanding for each question and to develop better answering techniques.

**Sample Question and Answer**

Study Source B. What is the purpose of the Hitler Youth poster? Explain your answer. (5)

Source B: A Nazi poster, with a caption reading: "Officers of Tomorrow".

Step 1 Write your answer using the PAMIE answering format.

The purpose of the Hitler Youth Postcard is to convince (P) the German youths (A) that Hitler Youth was a good organisation to be part of as they would benefit from being trained into leaders to lead and protect Germany in the future (M). This is so that the German youths will be encouraged to join Hitler Youth to fight for the Nazi regime (E). This can be seen from Source B, a young boy who is smiling in the foreground with a strong Nazi officer in the background with the caption that reads "Officers of Tomorrow" (E).

Step 2 Provide Contextual Knowledge

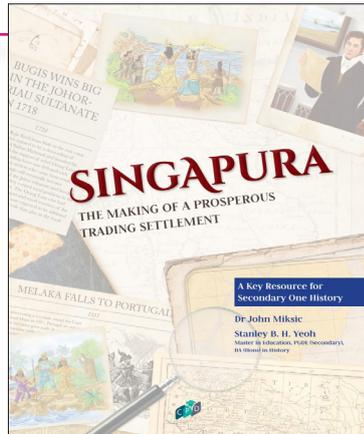
Based on my contextual knowledge, the Hitler Youth posters were often used as propaganda, to emphasise on the bright future of German youths under Hitler's leadership. Its success could be seen from the stark increase in Hitler's youth membership, from 1000 members in 1923 to 2.3 million members by 1933.

**58 Study Source D**

How useful is this source as evidence of Trotsky as a leader? Explain your answer. (6)

Level	Observations	Marks
L1	Yes or No. Usefulness based on prevalence. Reports information from the source. e.g. Source D is useful, as it is written by Lenin. [1] As Lenin had worked with Trotsky since the days of the October Revolution, he would know Trotsky well. [2]	1 - 2
L2	Yes or No. Usefulness based on content. Award 2m for valid inference, unsupported. Award 3m for valid inference, supported. e.g. Source D is useful as evidence of Trotsky as a leader. Source D tells me that Trotsky was an incapable incompetent leader as he did not have clear ideas of his own beliefs as a leader. This can be seen from Source D. He has never yet held a firm opinion on any important issue about Communism. Accept also: Trotsky was an eminent leader.	2 - 3
L3	Yes or No. Usefulness based on cross-reference to contextual knowledge. Award 1m higher mark for elaborated inference/ contextual knowledge. e.g. Source D is useful as it is supported by my contextual knowledge. Based on my contextual knowledge, Trotsky was not a competent leader as his ideologies were neither convincing nor popular amongst the people. Trotsky promoted the idea of permanent revolution but failed to convince fellow Party members to support him as they were tired of war and violence after WWI and the civil war in Russia. Instead, many of them preferred Stalin's idea of Socialism in one country. The inability to convince his party members shows that Trotsky was indeed incapable. As Source D is supported by my contextual knowledge, it is reliable and thus a useful source. Note: Can only cite CK or all sources provided in this case study are unreliable sources.	4 - 5

# Singapura



ISBN: 9789811138898

Singapura: The Making of a Prosperous Trading Settlement is a vital resource for students learning History as well as teachers teaching History at Secondary One.

Closely aligned to the Ministry of Education's Lower Secondary History syllabus, this book has been designed to supplement budding young historians with more information about Singapore's rich and interesting history, including additional sources to provide more in-depth knowledge about the role Singapore played in the region throughout the 14th to 19th century.

The Practising History section consists of notes and 3 practice papers for students to apply the skills learnt on source-based and structured questions.

## Timeline

The book features a running timeline on the sides for quick and easy chronological reference.

## Engaging Illustrations

Comics-style illustrations to help students visualise past events.



Singapore was selected because it had a deep-water harbor. It was in a good geographical location between India and China, which can act as an important market port. Most importantly, the Dutch were not in Singapore so the Dutch crown was not in the Johor-Riau Sultan's court in Tanjung Pagar and source of taxes in Singapore.

## Archaeological Evidence

Actual archaeological sources are provided for activities in investigation.

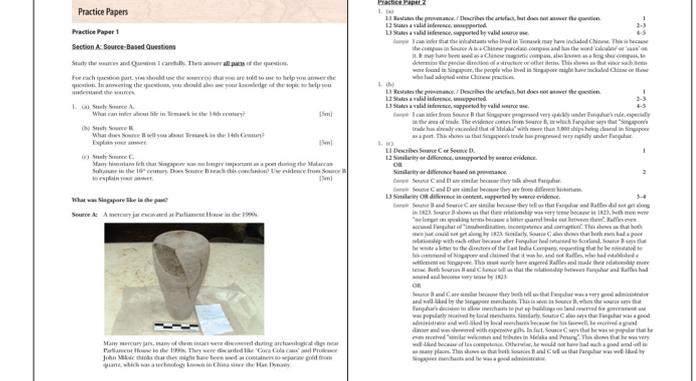


## Practice Papers

The practice papers come with answer schemes for students to learn the different levels of answers required.

## Glossary

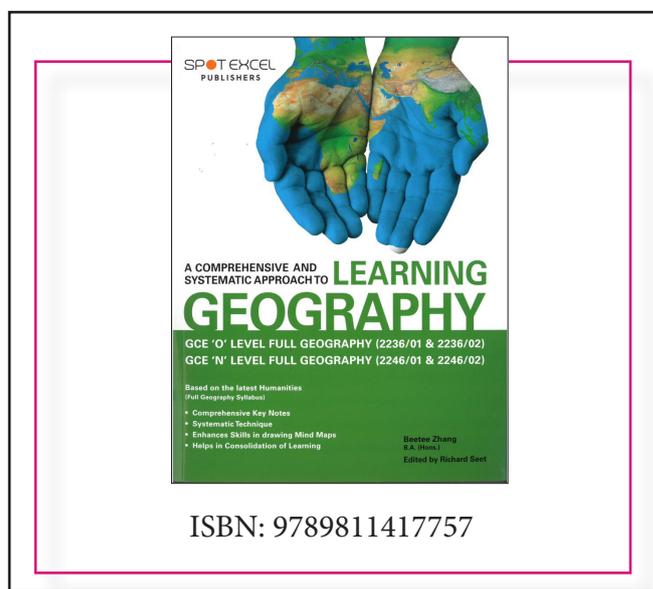
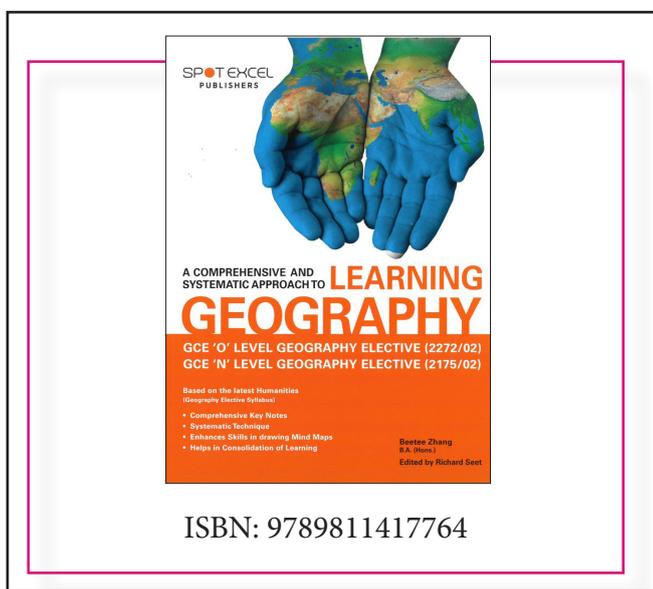
Explanations and detailed information about historical terms found in a chapter.



# Learning Geography

This Comprehensive and Systematic Approach to Learning Geography series has been specially designed and written in simple language and at times in point form, to assist students in extracting factors, reasons, strategies and roles of stakeholders in relation to an issue at a glance. It is hoped that the comprehensive and systematic format will help students consolidate their learning. Students are advised to use the books as guides to enhance their proficiency in drawing their own mind maps to understand and apply the information faster and better.

Students are also advised to use the guide books along with other learning resources used by their schools such as the textbook for maps, diagrams and graphs to describe distribution, explain formation of physical features and analyse trends as well as videos, hands-on activities, online interactive activities, concepts and inquiry skills taught in class.



**What phenomena are found at plate boundaries and how are they formed? Earthquakes**

**Earthquakes & aftershocks**  
Earthquake is a sudden release of stored elastic strain energy through the breaking of rocks. It is caused by sudden slip along a fault. The sudden slip releases the stored energy in the form of seismic waves that propagate outwards from the fault. The energy is transferred to the surrounding rocks, causing them to vibrate. This vibration is what we feel as an earthquake.

**Factors that affect extent of earthquakes**

1. **Magnitude** (energy released) from 1 to 9, measured by Richter scale. For each increase of magnitude, the energy released is 32 times more intense than previous one. It was greatest recorded in 1960 Chilean earthquake (9.5).
2. **Depth of focus** (where rupture occurs) by near surface, intermediate depth, or very deep, ranging from 0 to 700 km deep. Deep focus earthquakes are associated with subduction zones.
3. **Population density** if quake occurs in densely populated area, death toll high. Example: magnitude 7.2 quake in 1976 Tangshan, China killed 242,769 people.

**Great amounts of stored energy build up within the rocks. When capacity of rocks to withstand increasing stress is exhausted, they break and release stored energy in the form of seismic waves. This energy is transferred to the surrounding rocks, causing them to vibrate. This vibration is what we feel as an earthquake.**

**Point of easy release is the focus and the point directly above it in the upper crust is the epicentre.**

**After an earthquake, there will be smaller earthquakes called aftershocks that follow along the fault.**

## Learning Exercises

Exercises are provided in the books as checkpoints for the students' learning.



From the description, state how people use coasts.

Description	Use of coasts by people
<ul style="list-style-type: none"> <li>Due to increasing demand for fish and declining fish stock resulting from overfishing, fishermen need to resort to fish activity.</li> <li>This activity contributes about 33% of world's fish supply.</li> <li>Coastal areas are homes of fishermen who build their houses on stilts in the water.</li> <li>Wooden walkways are built to link the houses.</li> <li>Boats serve as a means of transport and communication along a coast.</li> <li>Living near the coast is a way of life for fishermen.</li> <li>Daily debris discard household waste.</li> <li>Coastal areas are scenic, windy, peaceful and great places for relaxation and recreation.</li> <li>Local authorities make full use of coastal areas by building resorts, spas, theme parks and conservation of marine ecosystem to attract tourists.</li> </ul>	
<ul style="list-style-type: none"> <li>Due to some coastal areas being endowed with deep, well-sheltered harbours, local authorities capitalise on such advantages by building ports.</li> <li>Port activities eg. import trade boost the economy of countries eg. Singapore.</li> </ul>	

## Summary Highlights

A summary highlights is included at the end of each book for a quick recap on the topics.



**SUMMARY HIGHLIGHTS**

**COASTS: Should Coastal Environments Matter?**

**RQ 1: How and why are coastal environments different and dynamic?**

**What FACTORS cause coastal environments to change and be dynamic?**

1. Waves	2. Tides	3. Currents	4. Geology	5. Types of ecosystems	6. Human activities
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**What are the two main types of waves?**

1. Constructive waves	2. Destructive waves
<ul style="list-style-type: none"> <li>Powerful wash</li> <li>Weak backwash</li> <li>Seash has powerful than backwash</li> </ul>	<ul style="list-style-type: none"> <li>Weak wash</li> <li>Powerful backwash</li> <li>Seash has powerful than backwash</li> </ul>

**What are the three main coastal processes?**

1. Sediment erosion	2. Sediment transport	3. Sediment deposition
<ul style="list-style-type: none"> <li>Hydraulic action</li> <li>Attrition</li> <li>Solution (Corrosion)</li> </ul>	<ul style="list-style-type: none"> <li>Transported by longshore drift</li> <li>Influenced by longshore current</li> <li>zig zag movement of wash and backwash along coast</li> </ul>	<ul style="list-style-type: none"> <li>Quality of gently sloping coasts</li> <li>Soak stronger than beach</li> </ul>

**What are the main types of erosional landforms?**

1. Cliffs and shore platforms (wave-cut platforms)	2. Headlands and bays	3. Caves, arches and stacks
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**What are the main types of depositional landforms?**

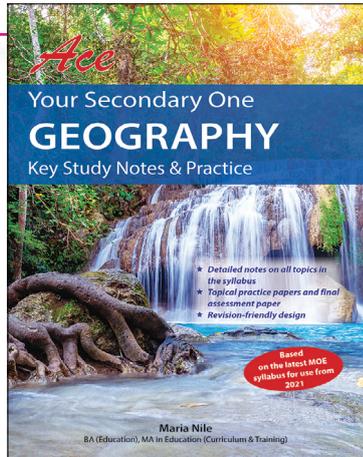
1. Beaches	2. Spits	3. Tombolos
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## Column Layout

Information is presented in columns and key words are bolded or underlined for easier learning.



## Ace Your Geography



**Secondary 1**  
ISBN: 9789814996273

This book was designed based on the latest Lower Secondary Geography Syllabus issued by the Ministry of Education in 2021, with the intent of guiding Secondary 1 students new to the subject of Geography. The book aims to equip new students with both content knowledge and geographical skills aligned with the learning outcomes in MOE's syllabus, as well as to assess their learning through various forms of written assessment.

**CHAPTER 1**  
**Introduction to Geography**

**Key Questions**

1. What are the main concepts in Geography?
2. What is Physical Geography?
3. What is Human Geography?
4. How do Geographers perform Geographical Inquiry?

**1. What is Geography? What are the main concepts?**  
Geography is the study of Earth, both physical (natural) and built (human), and relationship between the physical and human environments. In Secondary 1, investigate the relationship between three natural resources (water, rainfall, mangroves) and humans.  
To better understand the relationship between the physical and built environments, four Geographical concepts are used by Geographers to understand the world.

*Ace Your Secondary One Geography*

(a) **Space**

- Refers to the physical area on Earth's surface.
- A specific space located on Earth can be expressed using Latitude and Longitude.
- Example: Singapore's coordinates are 1° North and 103° East.

**Latitude and Longitude on Earth**

**Reflect!**  
What are the coordinates of some major cities around the world?

- Specific spaces, especially built environments by humans, can be arranged in spatial patterns, either linear or cluster.

### Detailed Notes

Each chapter consists of detailed notes covering key questions. Illustrations and reflection questions are also included for easier revision and encouraging thought processes.

*Ace Your Secondary One Geography*

**Check your Understanding!**

1. Identify the four Geographical concepts. (4)
2. Complete the geographical scale below using examples not provided previously. (3)

3. Connect the examples with the correct Geography component.

Aquatic ecosystems	Hydrosphere
HDB Buildings	Biosphere
Rift valleys and mountains	Transport
Water supply	Atmosphere
Traffic jams	Lithosphere
Hurricanes and tsunamis	Shooting

**Answers**

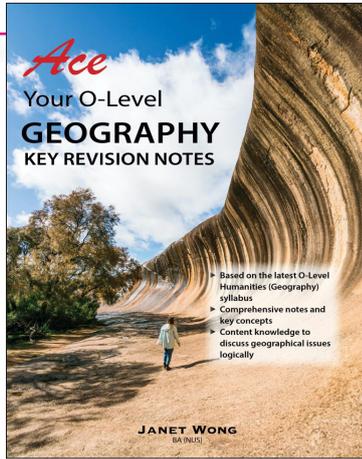
**Chapter 1**

1. Identify the four Geographical concepts. Space, place, scale and environment. 1m per correct concept
2. Complete the geographical scale below using examples not provided previously. (These are examples of acceptable answers)

1m per appropriate example

### Practices

Topical practice papers and a final assessment paper with answers detailing the mark allocation are provided.



O-Level

ISBN: 9789811426735

This guide book is specially designed to help students in their revision for the O-Level examinations. It contains comprehensive Geography notes and key concepts that students are required to apply to their answers. All notes are based on the latest MOE Geography Elective syllabus.

This book equips students with the necessary knowledge to be able to discuss geographical issues in a logical manner. Students will also be able to apply this knowledge seamlessly to form sound explanations and provide clarity in their answers. The notes are organised in a clear manner to aid in students' revision.

Contents	
Unit 1 Coasts: Should Coastal Environments Matter?	1
Gateway 1: How and why are coastal environments different and dynamic?	
Gateway 2: Why are coastal areas valuable?	
Gateway 3: How can we manage coastal areas in a sustainable manner?	
Unit 2 Living with Tectonic Hazards: Risk or Opportunity?	17
Gateway 1: Why are some areas more prone to tectonic hazards?	
Gateway 2: What landforms and associated tectonic phenomena are found at plate boundaries?	
Gateway 3: How do people prepare for and respond to earthquakes?	
Unit 3 Variable Weather and Changing Climate: A Continuing Challenge?	32
Gateway 1: Why do different places experience different types of weather and climate?	
Gateway 2: What is happening to the earth's climate?	
Gateway 3: Is the weather becoming more extreme?	
Unit 4 Global Tourism: Is Tourism the Way to Go?	47
Gateway 1: How does the nature of tourism vary from place to place?	
Gateway 2: Why has tourism become a global phenomenon?	
Gateway 3: Developing tourism at what cost?	
Unit 5 Food Resources: Is Technology a Panacea for Food Shortage?	72
Gateway 1: How and why have food consumption patterns changed since the 1960s?	
Gateway 2: What are the trends and challenges in production of food crops?	
Gateway 3: How can the problem of food shortage be addressed?	
Unit 6 Health and Diseases: Are We More Vulnerable Than Before?	97
Gateway 1: What are the global patterns of health and diseases?	
Gateway 2: What influences the spread and impact of infectious diseases?	
Gateway 3: How can we manage the current and future spread of infectious diseases?	
Unit 7 Geographical Skills and Investigations	120

## MOE Syllabus

Notes are based on the latest O-Level Humanities (Geography) Syllabus.



## Comprehensive Notes

Comprehensive notes are provided with key concepts and illustrations for effective revision.



**Unit 1 - Coasts: Should Coastal Environments Matter?**

**What are waves and how are they generated?**

- Waves are generated when wind energy blowing across oceans is transferred to water surfaces. Movement is affected by wind direction. E.g., onshore winds push waves towards the coast and crash onto shore.

**Wave terminology**

- Wave length: Horizontal distance from crest to crest through trough.
- Wave height: Vertical distance between the crest and trough.
- Wave crest: Highest part of a wave.
- Wave trough: Lowest part of a wave.
- Wave particles: Move in an orbit, motion decreases with depth.

**Wave energy depends on the following factors**

Factor	Strength and size of wave
Wind speed	The faster the wind blows, the stronger the waves.
Wind duration	The longer the wind blows, the stronger the waves.
Fetch (distance travelled by the wind over sea and oceans)	The greater the fetch, the more powerful the waves.

- The amount of energy in waves can be observed from the wave steepness.
- The higher the wave energy, the steeper the wave, the shorter the wave.

**Waves in the open ocean**

- They have long wave lengths and low wave heights. Water particles in an orbit (motion decreases with depth).

**Waves close to the coastline**

- Although water particles move in circular motion, this motion changes as they approach the coastline.
- Nearer the coastline: Water is shallow, interacts with the seabed and starts to become steeper and topples over, leading to the wave breaking and releasing energy.
- When energy within the wave is released on the coast, it breaks rocks all into smaller particles which are transported to other parts of the coast. Forces in the changing or creation of coastal environments.

**Unit 1 - Coasts: Should Coastal Environments Matter?**

**Why do coastal landforms and features vary from place to place?**

**Coastal processes**

- Hydraulic action**  
When waves strike against the rock surface, air is trapped and compressed within the rock joints, exerting pressure on joints. After repeated compression of air, joints are weakened and rocks shatter eventually.
- Ablation (corrosion)**  
As waves break, sediments such as sand and rocks (which are carried by waves) are hurled against the coast. The loosened sediments will knock and scrape against coastal cliffs, weakening the surface and breaks down the coast. Over time, it can undercut a cliff.
- Attrition**  
When rock particles rub or collide against each other, they break into smaller pieces and become smoother and rounder over time.
- Solution (corrosion)**  
Seawater reacts chemically with water-soluble minerals in rocks and dissolves them. Eg. Limestone rocks are soluble and easily eroded by carbonic acid. Hence, the rocks will be eventually disintegrate.

**Sediment transport**  
Sediments transported along coasts through longshore drift and beach drift (waves approaching coast at an angle).

**Land (Beach)**

**Sea**

- Waves approach at an angle.
- Sediments move up the beach at an angle via wash.
- Due to gravity, sediments are brought back in the sea at right angle (move perpendicularly downwards) through backwash.

**Are You O-Level Geography - Key Revision Points**

- Repeated wash and backwash will cause zig-zag movements of sediments along the coast called beach drift.
- When waves approach the coast at an angle, they generate longshore currents. Together with longshore currents, beach drift moves sediments away from the coast forming the longshore drift. Longshore drift is most rapid when waves approach straight coast at an angle of 40° to 50°.

**Sediment deposition**

- Deposition occurs when waves lose energy and are no longer able to transport sediments. Location of coasts influences the deposition of sediments.
- Deposition of fine sediments happens at sheltered areas with calm waters. Eg., mangrove coasts create sandy beaches. It also takes place in shallow waters with gentle-sloping coasts.
- Coarser sediments are usually deposited in more exposed and smaller bays with higher energy waves to remove finer sediments, leaving behind bigger sediments which form stony beaches.

**In what ways do coastal landforms and features vary from place to place?**

**Erosional landforms**

**Cliffed coasts**

- Cliffs and Shore Platforms**  
Cliff: Steep and near-vertical rock face found along coasts, produced from undercutting a steep, rocky coast.

During high tide, repeated erosion will cause the cliff to erode and eventually collapse. This will lead to the formation of a cliff.

Constant erosion will cause the cliff to erode and eventually collapse. This will lead to the formation of a cliff.

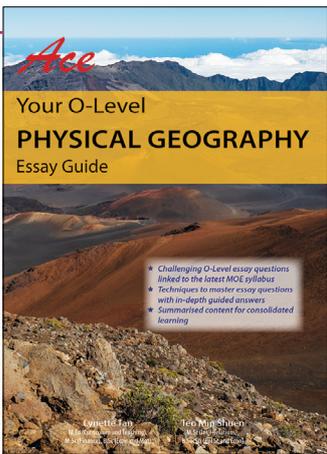
This notch will widen and deepen to form a slight hollow space called a cove.

Over time, repeated erosion will cause coastline to retreat inland. A shore platform is formed at the base of the cliff which will be submerged during high tides.

Ace Your O-Level Physical/Human Geography – Essay Guide have been written in accordance with the latest syllabus taught by the Ministry of Education, Singapore. The books focus on the essay techniques and effective ways to answer Physical/Human Geography questions. Questions in these books are set to be more challenging so that students can gain insights to answering questions that are more difficult.

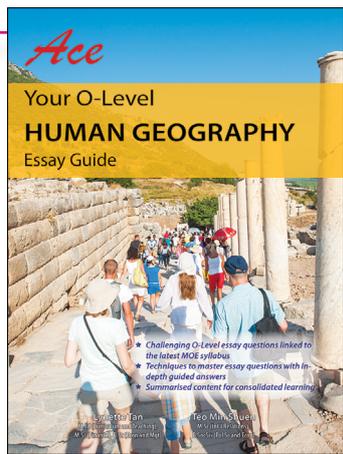
Using a step-by-step explanation guide with suggested phrasing of answers, the books aim to help students master the skill of effectively structuring their essays to obtain maximum marks. Ultimately, they hope to strengthen students' foundation in Physical/Human Geography essay writing and enable them to independently develop their own answers.

The books serve as guides to both teachers and students preparing for the O-Level Pure Geography and Elective Geography Examinations (Physical/Human Geography) and are suitable for students learning taking both Pure and Elective Geography.



**O-Level Physical Geography**  
ISBN: 9789814996181

The book covers the topics:  
(i) Essay Writing Skills; (ii) Coasts;  
(iii) Weather and Climate; and (iv) Living with Tectonic Hazards.



**O-Level Human Geography**  
ISBN: 9789814996174

The book covers the topics:  
(i) Essay Writing Techniques; (ii) Tourism;  
(iii) Food Resources; and (iv) Health and Diseases.

Chapter 2 Tourism Essay Questions

**Gateway 1** How does the nature of tourism vary from place to place?

1.1 How do tourist destinations differ from one another?

**Sample Essay 1**  
"A destination with rich culture and heritage will always be attractive to tourists." How far do you agree with this statement? Explain your answer with relevant examples.

**Analysing the question**  
Topic: Tourism (Gateway 1) How the nature of tourism varies from place to place.  
Sub-topic: Different factors attracting tourists to different destinations.  
**Identify the given factor:**  
- Places with rich culture and heritage (Heritage tourism; Film festival tourism; heritage tourism)  
**Other keywords:**  
- Always attractive  
**Other factors which can be attractive to tourists:**  
1. Places with scenic beauty (Honey-pot tourism)  
2. Places with conflicts (Dark Tourism)  
3. Places with good facilities (MICE Tourism; Theme Parks; Medical Tourism)

**Paragraph 1**  
Introduction:  
I agree to a [learning point 1] small extent that a destination with rich culture and heritage [learning point 2] will always be attractive to tourists as tourists are also drawn to places with [learning point 3] scenic beauty.

**Learning points**  
\* Apart from the given factor (rich culture and heritage) which must be discussed in the first body paragraph, you are free to choose any other factors that can differentiate a place elsewhere.  
1. Depending on your preference, 'to disagree' is not compulsory if just helps you to answer the question directly.  
2. You must always address the given factor (rich culture and heritage) in the question before discussing other factors in the introduction.  
3. You can choose any of the other factors that you are comfortable discussing.

**Paragraph 3**  
Body: Explain one other factor of your choice  
**Places with scenic beauty**  
(This statement – learning point 3. However, apart from visiting a place with rich culture and heritage, tourists often visit places with scenic beauty as these landscapes are unique and can offer breathtaking views to tourists who are nature lovers. (Singapore) Honey-pot tourism refers to tourism that draws a significant number of tourists due to sites and sightseeing scenery. These scenic sites are unique to different areas and attract people to their unique physical features. (Singapore) For instance, the Grand Canyon National Park in the US attracts a large number of tourists every year due to its unique combination of geologic colours and distinctive features. (USA) Hence, a place with scenic beauty attracts tourists because tourists visit these destinations in order to get closer to nature, as well as to explore different landscapes and physical features in different parts of the world.

OR

**Learning point 3: Other possible factors**  
**Places with Conflicts – Dark Tourism**  
(This statement) Tourists are also attracted to places with conflicts to understand how past events associated with death and tragedy could unfold. (Singapore) Dark tourism refers to tourists travelling to different sites where genocide, assassination, incarceration, ethnic cleansing, war or disaster – either natural or accidental – have occurred. People travel to such places to gain more understanding of the different events, and to sympathise with those who have been the victims of these events. (Singapore) For example, the Cu Chi Tunnels in Vietnam offers tourists an experience into the tunnels dug by the North Vietnamese in their fight against the Americans during the Vietnam War. Guided tours bring tourists into these caves, allowing them to experience how war was fought. These allow them to have first-hand experience with the events that occurred in the past, allowing them to gain a deeper insight about how events had unfolded. (Singapore) Hence, tourists are attracted to places with conflicts because it allows them to better understand political events and tragedy that have occurred.

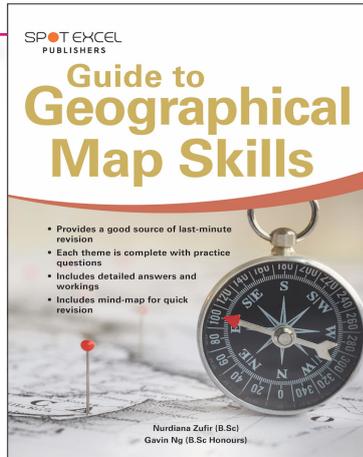
**Paragraph 4**  
Conclusion:  
You can decide to convey any of the other factors instead to the 2<sup>nd</sup> paragraph. You may also add this in as an additional content – paragraph (optional if you are able to write 2 content paragraphs in depth).



## Comprehensive Sample Essays

Each topic includes several sample essays with an analysis of the question, in-depth guidance on what to write for each paragraph and accompanying learning points.

# Geographical Map Skills



ISBN: 9789811164354

This Geography Topographical Map Skills guidebook is designed to help students understand each theme concisely. The illustrated diagrams and detailed workings provided give students a step-by-step breakdown of answering map skills questions in Geography.

The guidebook is broken down into several main themes that are tested under geographical map skills. Each theme is equipped with practice questions to test students' understanding of the concepts. This book also includes a set of relevant application questions that students can use for revision.

Through this book, students will become familiar with the common types of questions in geographical map investigations and will hopefully be able to answer examination questions confidently.

**Practice Questions**

1. The figure below shows a map of Sandy Gold Town. Use the map to answer the following questions.

(a) Find the four-figure grid reference of the

- lighthouse,
- market,
- settlement I
- Grace Hospital.

**Chapter 6 Applications of Maps**

**Revision Questions**

1. The map below shows an area within the Bukit Timah Nature Reserve, Singapore. Study the map carefully and answer the questions that follows.

Map 1

- Name the table of the map that shows the list of symbols. [1]
- Express the scale of the map in the form of 1 : n. [1]
- State the four-figure grid reference of
  - Dairy Farm Hut,
  - Catchment Hut.
 [1]
- State the six-figure grid reference of Hillview MRT Station. [1]

## Practice Questions

At the end of each chapter, there are some practice questions to reinforce the concepts learnt.

**Chapter 3 Measuring Distances on a Topographic Map**

**Scale**

To calculate distances between features on a map, we have to first understand the use of the scale in the map.

The scale is a ratio of a distance on the map to the actual distance on the Earth's surface.

Scale 1 : 100 000

**Example 1**

What does the scale of 1 : 50 000 on a map mean?

Map : Earth's surface (reality)

1 cm	= 50 000 cm
= 1 cm	= 50 000 ÷ 100
= 1 cm	= 500 m
= 1 cm	= 500 ÷ 1000
= 1 cm	= 0.5 km

Hence, the scale of 1 : 50 000 means that every 1 cm on the map represents 0.5 km on Earth's surface.

## Worked Examples

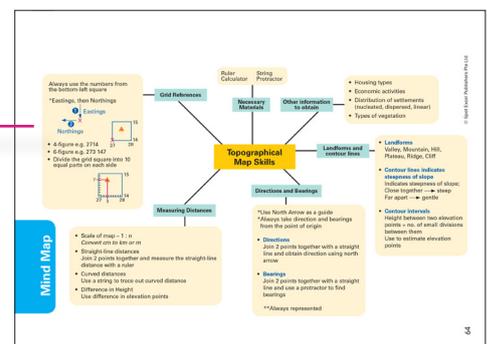
Examples are provided after each concept is discussed, demonstrating how the concepts can be used to solve the problems given.

## Revision Questions

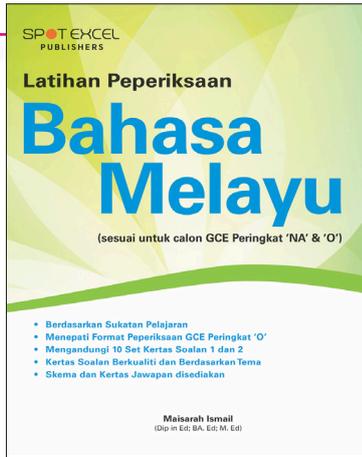
In the last chapter, there are some revision questions based on unique maps, testing different concepts discussed in the book.

## Summary Mind Map

A summary mind map is included at the end of this book to help recap the various concepts discussed.



## Exam Practices



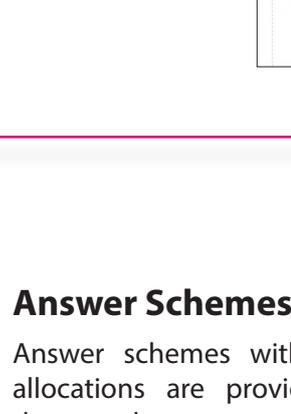
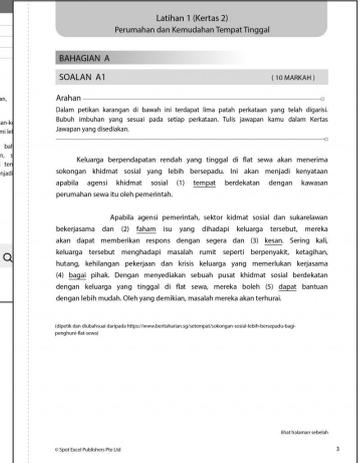
ISBN: 9789811407970

The practices in this book are based on the latest syllabus for the Malay language and prepare students for the GCE NA and O-Level examinations. Each practice contains two parts, namely Paper One and Paper Two. All aspects of the exam items are covered, including email and stimulus graphics.

With this series of exam practices, students will gain more confidence to achieve excellent results for their Malay language examination.

### Practice Papers

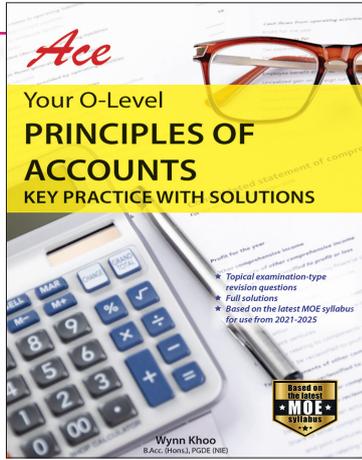
There are 10 practice papers for students to master various word associations in the Malay language.



### Answer Schemes

Answer schemes with mark allocations are provided so that students can evaluate their own answers and learn how to score marks.

## Ace Your O-Level Principles of Accounts



ISBN: 9789814996006

This guidebook on revision and practice was written specially to help students comprehend the topics in the new syllabus better. The contents are well-organised and systematic to help students self-study and revise in an effective way.

The book begins with an introductory chapter on accounting, following the order of the MOE-approved textbook closely. Each chapter includes examination-type questions to widen students' exposure to different variations of questions.

### 2 THE ACCOUNTING INFORMATION SYSTEM

- Stanley is starting a business and requires an explanation of the following financial terms.
  - State the purpose for each of the following source documents:
    - Receipt
    - Credit note
  - Explain the difference between a cash transaction and a credit transaction.
- Amanda owns Am's Jewellery, a business selling accessories and jewellery. Am's Jewellery had the following transactions in the month of March 2006.

- 2006
- |        |  |
|--------|--|
| Mar 1  | Bought \$7 200 worth of jewellery on credit from supplier Magic Co.                                |
| Mar 8  | Returned \$1 800 worth of jewellery to supplier Magic Co. as they were spoilt.                     |
| Mar 17 | Sold jewellery for \$4 600 on credit to customer Shermaine. The cost of the jewellery was \$2 200. |
| Mar 25 | Bought a computer for \$1 870 and paid by cash.  |

- Explain the difference between a cash transaction and a credit transaction.
- Amanda uses source documents to record her business transactions. State and explain the accounting concept related to the use of source documents in recording business transactions.
- Identify the source documents for the above transactions and whether the business will issue or receive them.

Date	Source Document	Issued or received
Mar 1		
Mar 8		
Mar 17		
Mar 25		

### PRINCIPLES OF ACCOUNTS

- Jermaine buys and sells hair accessories. The following transaction took place in her business in the month of January 2006.
 

Jan 1	Paid rent \$910 by cash.
Jan 3	Purchased goods of \$1 200 from Jazrel on credit.
Jan 17	Sold goods on credit to Kai En for \$1 000.
Jan 20	Purchased machinery of \$18 000 from Georgia on credit.
Jan 20	Received cheque from Kai En for the amount bought on 17 January.

Complete the table below for each of the above transactions. The first item has been completed as an example.

2006	Source document
Jan 1	Payment voucher
Jan 3	
Jan 17	
Jan 19	
Jan 20	

- The following transactions took place in Lynette's business.
 

2006	
June 1	Paid maintenance expense, \$2 000, by cheque
3	Sold goods on credit to Chun Kang for \$1 600.
5	Chun Kang returned spoilt goods invoiced at \$70.

Complete the table below for each of the above transactions. The first item has been completed as an example.

2006	Source document
June 1	Payment voucher
June 3	
June 5	

- Explain the going concern concept.

14

## Examination-type Questions

Revision exercises comprise of examination-type questions arranged by topic.

## Answers

Full solutions with tables are included for students to evaluate their own learning.

### ANSWERS

#### 1. Introduction to Accounting

- Greater funds/capital to run the business. Banks are more willing to provide loans.
  - To enable business to determine its performance at certain accounting intervals and make the necessary decisions. This is based on accounting period theory.
- Decision making. Accounting provides financial statements to communicate financial information to stakeholders to make informed decisions regarding the business.
  - Internal stakeholders: Sole proprietor/manages, Suppliers, credit and monitor the performance of the business. Employees: To assess job prospect and stability.
  - External stakeholders: bank/créditor lenders: To decide whether to grant loans to the business. Suppliers: To decide on the obligations of the business. Customers: To decide if the company is stable to provide good after-sales service. Competitors: To decide on how to improve their business.
- The accounting entity theory states that the business and the owner are separate and distinct entities. Only business activities and not the personal activities of the business owner are recorded.
  - Manage Owner
  - Integrity, Objectivity
  - Government
- The role of accounting is to allow stakeholders to make informed decisions regarding the management of resources and performance of business.
  - Accounting is the process of recording, summarizing, analyzing, interpreting and reporting the financial information of an organization.
    - A trading business buys goods to sell while a service business provides services to generate revenue.
    - Either bank or suppliers or shareholders/creditors.

Business situation	Accounting Objective	Accounting Theory
1. The value of a motor vehicle bought for \$20 000 is \$15 000 at the end of the year.	Accounting Theory	Historical Cost Theory
2. Through the value of the office building, the company's net assets are \$1 200 000 at the end of the year. The building was purchased for \$1 500 000.	Accounting Theory	Historical Cost Theory
3. The value of the office building is \$1 200 000 at the end of the year. The building was purchased for \$1 500 000.	Accounting Theory	Historical Cost Theory
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## Practice Guide



ISBN: 9789811498527

ISBN: 9789811498534

These Practice Guides are suitable for Secondary 3 and 4 students, based on the latest MOE syllabus.

The Standard Tamil book contains a wide range of cloze passages, idioms, creative phrases, sentence structuring exercises, MCQ and open-ended comprehension along with a vocabulary list.

The Higher Tamil book contains a wide range of cloze passages, editing, word blending, MCQ and open-ended comprehension and summary practices, along with a vocabulary list.

Both books also contain several tips and tricks for students to score their desired 'A' grade.

மரபுத் தொடர்கள் கிணை வாராழிகள்

கூ. எண்	வார்த்தையின் பொருள்	கிணை	அர்த்தம்
1.	தூக்கம்	உறங்குதல்	Unable to keep awake
2.	தூங்கிப் பழை	உறங்கிப் பழை	Talk idly
3.	தூங்குதல்	உறங்குதல்	Advice
4.	தூங்குதல்	உறங்குதல்	Spreading rumors
5.	தூங்குதல்	உறங்குதல்	Disobedient talk
6.	தூங்குதல்	உறங்குதல்	Challenge
7.	தூங்குதல்	உறங்குதல்	Fix the resolution
8.	தூங்குதல்	உறங்குதல்	Comfort
9.	தூங்குதல்	உறங்குதல்	Formal talk
10.	தூங்குதல்	உறங்குதல்	Distract
11.	தூங்குதல்	உறங்குதல்	Interrupt
12.	தூங்குதல்	உறங்குதல்	Talking truth
13.	தூங்குதல்	உறங்குதல்	Make up story
14.	தூங்குதல்	உறங்குதல்	Trash talk
15.	தூங்குதல்	உறங்குதல்	Trash talk
16.	தூங்குதல்	உறங்குதல்	Good heart
17.	தூங்குதல்	உறங்குதல்	Dreaming
18.	தூங்குதல்	உறங்குதல்	Shock
19.	தூங்குதல்	உறங்குதல்	Not knowing what to do

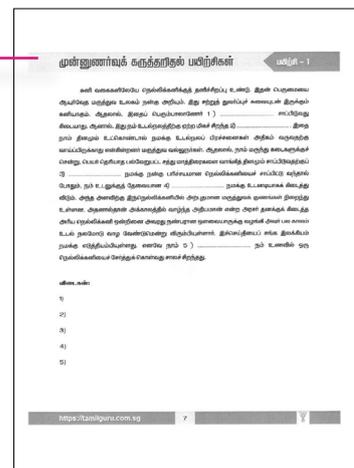
https://tamilsu.com.sg

### Idioms Examples & Exercises

The Standard Tamil book contains pages of idioms with explanations (in both Tamil and English) to help students understand and memorise the phrases.

### Comprehension Cloze Exercises

The Higher Tamil book contains challenging exercises of comprehension cloze that train students' vocabulary usage.





# Oral Examination Guide



ISBN: 9789811412165

Targeting secondary school students who want to master their Tamil oral language skills, this book consists of 30 oral practices with guiding starters. In order to guide students to focus their conversation on the given topic, each practice in the book comes with short pointers to help students.

The book is based on the latest MOE syllabus where important topics have been covered. Moreover, proverbs and common sayings have been included towards the end of the book for students to include in their oral practice.

Overall, this book is ideal for Tamil students who want to excel in their oral examinations.



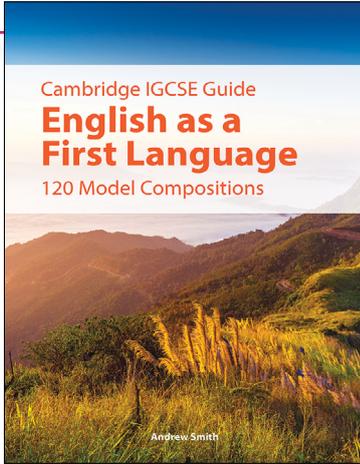
## Wide Variety of Topics

From local culture to current themes, such as online shopping, this oral book is ideal for exposing students to diverse topics to practice their oral on.

வெள்ளக்கூடம்		
பக்கம்	தலைப்பு	பக்கம்
	வாய்மொழிக் தேர்வு நூல் அமைப்பின் கருத்துரை	6
	வாய்மொழிக் தேர்வு	7
1.	சிங்கப்பூர் கலாச்சாரம் (Singapore's Culture)	13
2.	தீவிரநிலைப் பரீட்சைப் பயிற்சி (Emergency Drills)	17
3.	தீவிரநிலைப் பரீட்சை (Challenges of Teenagers)	20
4.	வெற்றி மற்றும் தோல்வி (Victory and Loss)	23
5.	மக்களின் தொகை (Aging Population)	25
6.	சமூக சேவை (Community Service)	29
7.	சமூக சேவை (Community Service)	32
8.	சமூக சேவை (Community Service)	35
9.	சிங்கப்பூர் சுற்றுலா தளங்கள் (Tourist Spots in Singapore)	38
10.	இணையம் (Internet)	41
11.	உடற்பயிற்சி (Exercise)	44
12.	அருகாமை (Neighbourhood)	47
13.	போக்குவரம் (Transportation)	50
14.	புத்தகம் (Library)	53
15.	பலபுற ஒத்துழைப்பு (Racial Harmony)	57
16.	ஒத்துழைப்பு (Team Work)	61
17.	மொத்த பாதுகாப்பு (Total Defence)	64
18.	சுற்றுச்சூழல் பாதுகாப்பு (Environmental Protection)	67



# English as a First Language



**120 Model Compositions**  
 ISBN: 9789814996037

This book consists of 120 model essays written in the different essay styles tested at the IGCSE for English as a First Language: Descriptive, Narrative and Argumentative style. There are 40 essays in each writing style.

Cambridge IGCSE Guide English as a First Language 120 Model Compositions

**Descriptive Essay 1**  
**Describe your favourite place to relax in.**

The quiet. The calm. The peace. The soft thudding of shoes against the smooth cement floor. The hushed whispers. The rustling of pages; some yellowed over time and some as new as a baby. The library.

My favourite place to relax is at the library near my house. It was recently renovated and has six floors for people to enjoy. Although all floors have something for everyone, my favourite floor is the top floor where the adult section of English and Chinese books are at. The floor is not frequented by many people and most of them there are either the elderly flipping through newspapers or avid readers like me, engrossed in a good book.

The interior of the top floor of the library is amazing. It is spacious with wide cement floors. In the middle, there are chairs, sofas and a set of wide wooden tables to relax. The area is carpeted, muzzling the sound of shoes thudding against cement floor. To further enhance the cozy atmosphere in the library, every equispaced with a small lamp giving out soft, warm light that can be switched on or off with a pull switch. On an average day, you can see people either reading a book, magazines or taking a light nap in one of the comfortable chairs.

My favourite spot in the library is a wide chair with a thick blanket placed in the middle. Being able to people-watch is a relaxing pastime of mine. Not only that, but when it rains, you can breathe taking the view of the grey skies and even slightly in the heavy rain is something I never fail to appreciate. This is especially when the floor resonates with the sound of the raindrops hitting the roof and I would curl up on the wide chair while taking sips of hot tea from my tumbler, close me into another world.

As such, my favourite place to relax is in the library, its quiet atmosphere and warmth which are enhanced by the solid furniture in the library, being in me a sense of peace and comfort, thereby giving me time and space to relax.

Part 1 Descriptive Essay

**Describe the time when you lost something/someone important to you.**

Once, when I was much younger and therefore more immature, I did something I came to regret. I lost my best friend because of my childish feelings of hatred, envy and jealousy. However, that was what I was like back then, and how I wish I could turn back time to correct my mistake.

In middle school, I was determined to achieve excellent academic grades and attain a prestigious scholarship. I participated in a variety of activities, joined a number of co-curricular clubs and even held a couple of leadership positions. My grades were decent and I was a teacher's pet. Naturally, everyone, including myself, thought that I would be a scholarship recipient.

Both my best friend and I had applied for the same scholarship. She said I thought that I would be the recipient of the scholarship. On the day of the results, the two of us sat side by side with our eyes glued to our email inboxes on our phones. At exactly ten in the morning, my mailbox chimed. I tapped on my phone excitedly, expecting the words 'Application Successful' to appear on my screen. However, what I saw put me in a state of shock.

"Dear Lydia, we regret to inform you that your scholarship application was unsuccessful." The dreadful words were written in bold, black capital letters. I was devastated. I stared at my phone screen for a full minute, speechless. Meanwhile, my best friend had a huge toothy grin on her face as she waved her phone eagerly in my face.

"I got it! I got it! You did, too, right? Oh my, I am so happy for us! We can go for all those courses and study in all those countries together..." she blabbered on and on passionately, her arms waving about in the air wildly.

Feelings of sadness, disappointment and self-hatred bloomed in my chest. Why didn't I get it? What made me less worthy of that scholarship than her? Subsequently, feelings of envy, jealousy and hatred directed towards my best friend arose as well. She obviously could not be better than me. She did not hold any form of leadership position nor were her results as good as mine. She should not have gotten the scholarship. She did not deserve it.

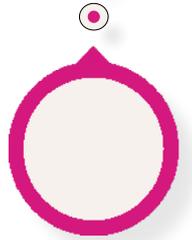
When my best friend realised my silence and saw my confounded face, she immediately grabbed my phone, read the email, and opened her mouth to speak. "Lydia, I am so..."

"No," I snapped. "Don't. You don't deserve it. I should have gotten it. Sorry, but we can't be friends anymore!" With that, I stood up and walked away from her. I have not spoken to her since then. Neither has she.

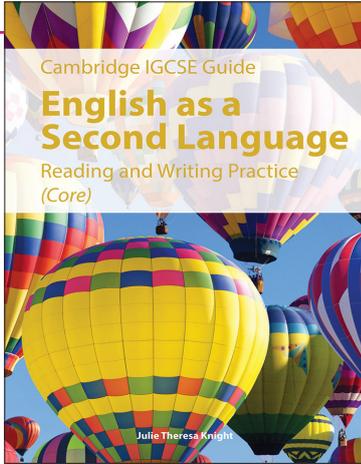
Looking back at the incident now, I am still overcome with regret and shame. It was horrible for me, as a best friend and as a human being, to treat someone in that manner. I now realise that perhaps the interviewers saw my real character in that short span of an hour and decided I did not deserve the scholarship. My then best friend did. And I completely agree.

## Model Essays

A collection of model essays on various topics, genres and issues for students to learn from.

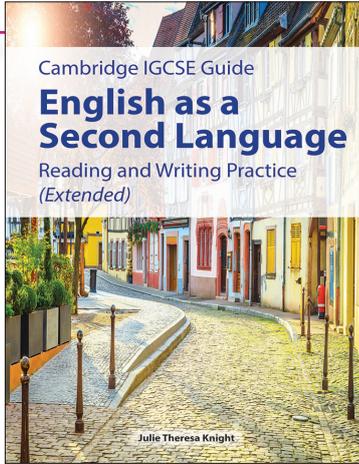


# English as a 2nd Language



**Reading and Writing Practice (Core)**

ISBN: 9789811449291



**Reading and Writing Practice (Extended)**

ISBN: 9789814996013

These books are excellent for students to prepare for the final examinations. Students can focus on the areas of the reading and writing paper that they are weak in while practising other sections. Students can also use one practice from each section to complete a whole paper. They may wish to do this to practise completing a full exam paper within the time limit.

Contents	
Extended Paper Part 1	1
Reading Comprehension 1	17
Extended Paper Part 2	
Reading Comprehension 2	
Extended Paper Part 3	
Note Making	
Extended Paper Part 4	
Summary Writing	
Extended Paper Part 5	
Email Writing	
Extended Paper Part 6	
Essay Writing	
Extended Paper Part 7	
Review Writing	
English as a Second Language	
Speaking practices	
Suggested Answers	



## Examination Components

Reading comprehension, note-making, summary writing, email writing, essay writing and speaking practices are included in the books.

Email and essay titles can provide students adequate practice in planning their essays as this is a skill they will need in the examination.

Students can study the exemplar essays and summaries when checking their own work, and take notes on specific areas such as style, linking words and paragraphing.

## Speaking Cards

The speaking cards contain advice and tips on how to use them to prepare for this part of the examination.

IGCSE English as a Second Language Speaking Practices

**SPEAKING CARD 7**

**Housing**

Candidates Card

**We all have to live somewhere.**

- You are going to talk about this topic with the examiner.
- You have 2-3 minutes to prepare and to ask the examiner any questions.

Please use these bullet points, in the order given, to structure the conversation:

- talk about the place that you live in
- describe your dream home
- explain what the leisure facilities are like in your local community
- compare the benefits of a city and a countryside house
- suggest ways of improving housing conditions of poor people
- explain how far you support the idea of building houses from recycled materials

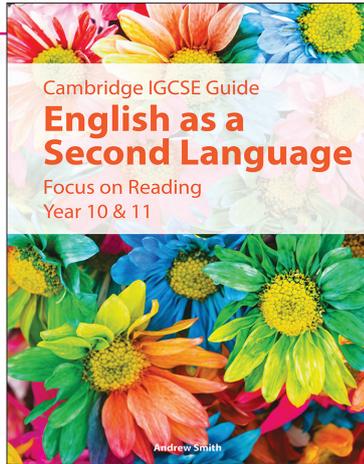
You may also talk about other ideas of your own related to the topic.

Remember, you are not allowed to make any written notes.

NOTES ON SPEAKING PRACTICES

123





**Focus on Reading**  
ISBN: 9789811449314

This book consists of 4 parts. The first two parts comprise reading exercises, after which students have to answer direct questions based on the text given (Part A) and do a multiple-matching exercise (Part B). These exercises test students' understanding of the contents of the passage.

In Part C of this book, students have to match each statement to a corresponding person or thing after reading excerpts from an article. They will examine each paragraph closely and decide which statement matches which paragraph.

In Part D (Note-making), students are required to make notes after reading a passage.

## Comprehensive Exercises

An extensive collection of exercises for students to practise their reading, matching and note-making.

IGCSE Guide English as a Second Language: Focus on Reading Year 10 & 11

**PART A**

**EXERCISE A1**

- yellow was reserved as the colour for the royal family (yellow was the colour of royalty)
- a precious stone
- confirms selective breeding has produced several colour variations of goldfish
- Bubble Eye and Ryukin
- went to the front of the tank, sat rigidly around the tank, and go to the water surface and revolve for food
- they do not stop eating on their own accord, resulting in blocked intestines
- most acclim (can distinguish) between individual humans
- good associative learning abilities and social awareness
- five-month memory
- can distinguish between different shapes, colours and sounds
- can learn to recognise and react to certain signals or even perform tricks (they react from above, one mark for each detail)

**EXERCISE A2**

- has impaired orientation
- support local fishermen
- perishous industry hasn't damaged southern end of the lake
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**EXERCISE A3**

- cleaning and tidying up / cleaning painting / making itself presented
- of money

**EXERCISE A4**

- of money

**EXERCISE A5**

- of money

**EXERCISE A6**

- of money

**EXERCISE A7**

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**EXERCISE A8**

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**EXERCISE A100**

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IGCSE Guide English as a Second Language: Focus on Reading Year 10 & 11

**EXERCISE A1**

Read the article about goldfish and answer the following questions.

**The Goldfish**

The goldfish is a freshwater fish and is one of the most commonly kept aquarium fish. It is native to East Asia and was first selectively bred in ancient China more than 1,000 years ago. During the Song dynasty, when the selective domestic breeding of goldfish had already been established, the emperors ordered the construction of a pond to house the red and gold variety of goldfish. At that time, those outside the imperial family were forbidden to keep goldfish of the gold or yellow variety, as yellow was the colour of royalty.

Outside of China, the goldfish became highly prized in southern Europe because of their metallic scales in the 16th century. It became a tradition for men to give their wives a goldfish on their first anniversary. This symbolised a prosperous future for the couple. Elsewhere, the goldfish became popular in the United States after 1850.

Goldfish come in a variety of shapes and sizes. In April 2008, the largest goldfish, residing in the Netherlands, was believed to have measured 48 centimetres, and in July 2010, a goldfish measuring 41 centimetres was caught in a pond in England. There are also many different kinds of goldfish, and there are a total of about 300 breeds in China. Centuries of selective breeding have produced several colour variations of goldfish, some of them far removed from the original 'golden' colour of the fish.

Aside from the common goldfish variety, there are also other types of goldfish, such as the Bubble Eye fish, and the Goldfish also also their gills around their gills.

**EXERCISE A2**

Read the text below about extreme sports and answer questions 1–10.

**Guide to Extreme Sports**

Extreme sports are sports activities that are thought to entail a high level of possible danger. These activities often involve speed, height, a lot of physical effort and specialised equipment or spectacular stunts.

**A. Surfing**  
Surfing is the world's favourite extreme sport and is a test of agility and timing. There are several types of surfing, including windsurfing, kiteboarding and large wave surfing. Surfing has become a culture and a way of life, with music and film playing a large part in this.

**B. Climbing**  
Whether you want to climb natural rock faces, man-made cliffs or even buildings, climbing is an accessible, challenging and widely practised extreme sport with a range of disciplines. It is one of the most physically demanding extreme sports, so it might not suit everybody.

**C. Mountain Biking**  
The consists of riding bicycle off-road, often over rough ground, using specially adapted mountain bikes. Mountain biking takes bicycles to new places. Off-road tracks with rocky and rough terrain make ideal mountain biking locations and it's an enjoyable extension of an ability that most people already have.

**D. Skateboarding**  
Skateboarding originated in California in the 1940s when surfers looked to entertain themselves when waves were flat. Nowadays, skateboarding is a hugely popular extreme sport around the world and is mainly used for recreation and for transport. The annual sports competition, X-Games, has helped popularise skateboarding as a sport.

**E. Bungee Jumping**  
The involves jumping from a tall structure while connected to a large elastic cord. The tall structure is usually a fixed object, such as a building, bridge or crane. Commercial bungee jumping began in New Zealand in 1988. It is a popular extreme sport that anybody can participate in.

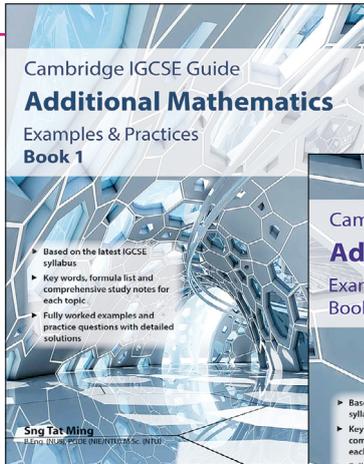
**F. Mountain Boarding**  
Mountain boarding is basically off-road skateboarding. You ride a modified skateboard with huge wheels down hills, dirt tracks or even to skateboard parks. It is advised that people simply enjoy the ride as doing anything more would be too difficult and dangerous.

**G. White Water Rafting**  
Although it's not as dangerous or extreme as it once was, white water rafting involves paddling down a fast-flowing river on a large inflatable raft, made for around eight people. Since the 1970s, developments in the activity as a leisure sport have made it increasingly popular.

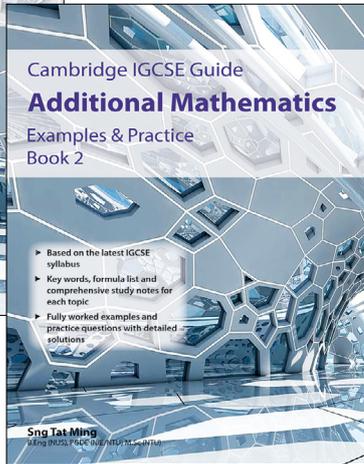
**H. BASE Jumping**  
BASE jumping is like skydiving, except you jump from a fixed position that is not an aeroplane and you don't have much time to open a parachute, making it much more dangerous. BASE jumps can be from buildings, cliffs and bridges. Jumpers have seconds to open their parachutes and also have little time to glide once the parachute is out.

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# Additional Mathematics



ISBN: 9789811449369



ISBN: 9789811493140

The motivation behind the Cambridge IGCSE Guide: Additional Mathematics series is to provide students with a guidebook which is both comprehensive and easy to understand, so that they can take the IGCSE Examination (Syllabus 0606) with greater confidence.

These books can help to strengthen students' overall understanding and appreciation of the topics taught in Additional Mathematics (0606) and increase their chances of scoring a distinction in the Cambridge IGCSE Examinations.

## FUNCTIONS

### Syllabus Outcomes

- Understand the terms: function, domain, range (image set), one-one function, inverse function and composition of functions.
- Use the notation  $f(x) = ax + b$ ,  $f = ax + b$ ,  $f^{-1}(x) = ax + b$ ,  $f^{-1} \circ f$  and  $f \circ f^{-1} = \text{id}$ .
- Understand the relationship between  $y = f(x)$  and  $x = f^{-1}(y)$ , where  $f(x)$  may be linear, quadratic or trigonometric.
- Explain in words why a given function is a function or why it does not have an inverse.
- Find the inverse of a one-one function and form composite functions.
- Use sketch graphs to show the relationship between a function and its inverse.

**KEY WORDS**  
function  
rule  
range  
one-one function  
inverse  
composite

### Formula List and Study Notes

- A function is a relation or rule, that maps each input  $x$ -value into a unique output  $y$ -value for a defined set of input values.
- Functions can be classified into **one-one** function, **many-one** function and **one-many** function.
- The set of input values of a function is called the **domain** of the function.
- The set of output values of a function is called the **range** of the function.
- The domain of a function is always stated in the function.
- To determine the range of a given function, sketch the graph of the function and determine the maximum and minimum  $y$ -values that the function can take.

### One-one functions

- A function  $f$  is **one-one** if and only if any horizontal line  $y = k$ , for all  $k \in \mathbb{R}$ , cuts the graph of  $y = f(x)$  at one and only one point. To show that a function  $f$  is not one-one is to provide a counterexample. This can be done either algebraically, where we need to find two different elements in the domain of  $f$  that gives the same image, or prove graphically by finding a line  $y = k$  that intersects the graph of  $f$  at more than one point.
- If a given function  $f$  is not one-one, we can restrict the domain to obtain a one-one function with the same rule as  $f$ .

## Overview of Chapter

At the start of every chapter, there are the syllabus outcomes, key words, formula list and study notes for students to have a quick overview of the chapter.

## Comprehensive Notes

Comprehensive notes are also included for each section within a chapter.

## Worked Examples

Worked examples for each new key concept are provided so that students can learn how to apply them in contexts.

### Examination-type Practice Questions

- A delegation of 3 girls and 2 boys is to be selected from a class of 18 girls and 12 boys. Find the number of possible delegations that can be formed.
- Find the number of arrangements of the eight letters of the word MATHEMATICS in which:
  - the letter  $T$  is at the end and the last letter is  $S$ ,
  - the vowels are not to be separated.
 How many 5-letter code words can be formed from the eight letters?
- 3 boys, 2 girls and a dog sit at a straight line. How many ways can they be seated?
  - the 2 girls,
  - any 2 boys,
  - if the 2 boys sit next to each other?
- In how many ways can a committee of 6 be formed from a boy, 4 girls and a brother-sister pair if:
  - there is no restriction on the selection,
  - the committee must include the brother-sister pair,
  - among the 9 people, a particular girl refuses to serve as particular boy?
- A family of 7, consisting of 2 sisters, 3 brothers and their parents, are to be seated at a round table. Find the number of ways in which the family:
  - are seated in a row at the front and one parent is in the middle,
  - the person standing to the left of the person in the middle is a girl.
- A teacher wants to set a class test for her class of 25 students. She has 12 questions, but she has to choose 10 questions to set. Find the least number of questions she must set.
  - Sally has 12 bars of chocolate in 4 different flavours:
 

Flavour	White	Milk	Dark
Number	4	3	4

 Sally intends to give one bar of chocolate each to 3 of her friends. Find the number of ways she can do so.
    - Sally remembers that one particular friend amongst her friends should not be given the hazelnut chocolate bar. Find how many bars she has left.

## SOLUTIONS

### Chapter 9

- Number of ways =  ${}^8P_3 \times {}^4P_2$   
= 840
- Since the first letter  $S$  and the last letter  $T$  are fixed, we only need to arrange the remaining 6 distinct letters.  
Number of arrangements =  $6! = 720$   
(b) Group the vowels together and consider them as 1 unit. There are a total of 6 units: M, T, B, C, V, and AEZ.  
The 6 units can be arranged in  $6!$  ways.  
The 3 vowels can permute themselves in  $3!$  ways.  
Number of arrangements =  $6! \times 3! = 4320$   
Number of 5-letter code words = (Select 5 letters from the 6 given letters)  $\times$  (Arrange the 5 chosen letters)  
=  ${}^6P_5 \times 5!$   
=  $6720$   
Alternatively, we can permute them in  $6!$  ways, since  ${}^6P_5 = 6!$ .
- (a) Group the 2 girls and puppy together as 1 unit. Thus, the 6 units to be arranged in  $6!$  ways and the 2 girls can permute themselves in  $2!$  ways.  
Number of ways =  $6! \times 2! = 48$   
(b) First, select the 2 boys from the 3 boys to sit with the puppy in  ${}^3C_2$  ways.  
There are 6 units to permute in  $6!$  ways.  
2 boys and puppy may sit in any order.  
So we choose 3 rows out of 4 slots in  ${}^4C_3$  ways, and the 2 boys can permute themselves in  $2!$  ways.  
Number of ways =  ${}^4C_3 \times 2! \times 6!$   
= 144  
(c) Since the boys are separated, we use the alternate method.  

□	□	□	□
girl	girl	puppy	girl

 The girls and puppy can permute themselves in  $3!$  ways. There are 4 spaces to slot the 3 rows such that they are not separated.  
So we choose 3 rows out of 4 slots in  ${}^4C_3$  ways, and the 2 boys can permute themselves in  $2!$  ways.  
Total number of ways =  $3! \times {}^4C_3 \times 2!$   
= 144
- (a) Number of selections without restrictions =  ${}^{12}C_3 \times {}^{12}C_2$   
(b) Since the brother-sister pair is set, we need to choose another 3 people from the remaining 7 people.  
Number of selections =  ${}^{12}C_3 = 220$   
(c) Let the particular boy be B and the particular girl be G. The restriction is 'B is not at G's left end', which can be treated as 'number of selections without restriction' - 'number of selections in which B and G are both in the committee'.  
Number of selections =  $220 - 35 = 185$
- (a) Note that the two parents are fixed at the ends but can permute themselves in  $2!$  ways.  
The remaining 3 people can be arranged in  $3!$  ways.  
Number of ways =  $2! \times 3! = 12$   
(b) First, choose one brother from the 3 brothers in  ${}^3C_1$  ways. Group the parent-brother parent as 1 unit. There are a total of 4 units which can permute in  $4!$  ways. The two parents in the parent-brother-parent unit can arrange themselves in  $2!$  ways.  
Number of ways =  ${}^3C_1 \times 4! \times 2!$   
= 288
- (a)  $25 \times 24 \times 23$   
(b) The least number of questions to set is 5.  
(c) (i) Case 1 = all 3 distinct flavours.  
Number of ways =  ${}^8C_3 \times 3! = 24$   
Case 2 = all same flavour.  
Number of ways =  ${}^8C_1 \times 3 = 24$   
Case 3 = 2 flavours the same, 1 other flavour.  
Number of ways =  ${}^8C_2 \times {}^2C_1 \times 3 = 27$   
(Multiply by 3, since the arrangement can be AB, BA or BAA.)  
Total number of ways =  $24 + 24 + 27 = 75$   
(d) Using the complement method.  
Consider the number of ways to set the hazelnut bar, which is a fixed case. The other two flavours can either get two distinct bars and permute in  $2!$  ways or get two bars of the same flavour.

**1.1 Concept of a Function**  
A function is a relation or rule that maps each input  $x$ -value into a unique output  $y$ -value for a defined set of input values.

The table below shows the common types of functions.

One-one	Many-one	One-many
		
For each input value, there is a unique output value. An $x$ -value of $x_0$ corresponds to a unique output value of $y_0$ . Example: $y = x + 1$	For two input values (same or different) there is one output value. Two different input values of $x_1$ and $x_2$ give the same output value of $y_0$ . Example: $y = x^2$	For one input value there are two output values. One input value of $x_0$ gives two different output values of $y_1$ and $y_2$ . Example: $y = \sqrt{x}$

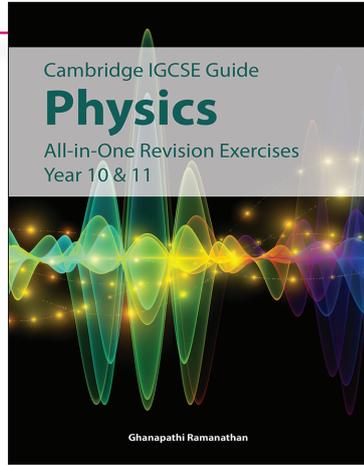
**Worked Example 1**  
Determine whether each of the following is a one-one, many-one or one-many function.  
(a)  $y = x^2 + 2$ ,  $x \in \mathbb{R}$  (b)  $y = x^2$ ,  $x \in \mathbb{R}$   
(c)  $y = x^2$ ,  $x \in \mathbb{R}$  (d)  $y = x^2$ ,  $x \in \mathbb{R}$   
(e)  $x = \frac{1}{y}$ ,  $y > 0$  (f)  $x = \sqrt{y}$ ,  $x \in \mathbb{R}$ ,  $y \geq 0$

**Solution:**  
(a) One-one function  
(b) Many-one function  
**Explanation:** Substituting  $x = 1$ ,  $x^2 = 1^2 = 1 - 1 = 0$   
Substituting  $x = -1$ ,  $x^2 = (-1)^2 = 1 - 1 = 0$   
Since  $x = 1$  and  $x = -1$  give the same output value, it is many-one.  
(c) One-one function  
(d) One-one function  
(e) One-one function  
(f) One-one function

## Examination-styled Practice Questions

Examination-styled practice questions for concept consolidation and mastery for exam preparation, which come with detailed and well-structured solutions.

# Physics All-in-One Revision Exercises



ISBN: 9789811449260

Cambridge IGCSE Guide: Physics All-in-One Revision Exercises is written based on the latest Cambridge IGCSE Physics syllabus (0625) for Year 10 & 11 students. The content is specifically tailored to hone critical thinking and problem-solving skills in students.

## Diagrams & Tables

This book presents comprehensive explanations and detailed diagrams to give students the most salient information they need.

**CHAPTER 1 GENERAL PHYSICS**

**1.1 Length and Time**

- A rule (ruler) is used to measure length for distances between 1 mm and 1 metre; the SI unit for length is the metre (m).
- Volume
  - The volume of regular and irregular solids can be measured by using water.

Diagram 1.1: Measuring the volume of regular and irregular solids

(b) The eureka can (displacement can) is also used to measure the volume of irregular solids which are too big for a measuring cylinder.

Diagram 1.2: Measuring the volume of an irregular solid with a eureka can

- Vernier callipers
  - A Vernier calliper is used to measure:
    - small objects
    - depth of a hole
    - external diameter of a cylinder or pipe
    - internal diameter of a pipe or tube

Cambridge IGCSE Guide: Physics All-in-One Revision Exercises Year 10 & 11

(b) A Vernier calliper gives readings to an accuracy of 0.01 cm.

Diagram 1.3: Vernier calliper

(c) How to take a reading with Vernier callipers:

Diagram showing how to take a reading with Vernier callipers

(d) Zero Error

Actual reading = Measurement - Zero error

Example: Measurement = 23.8 mm

Positive zero error:  $23.8 - (+0.2 \text{ mm}) = 23.6 \text{ mm}$

Negative zero error:  $23.8 - (-0.4) = 24.2 \text{ mm}$

Cambridge IGCSE Guide: Physics All-in-One Revision Exercises Year 10 & 11

5. Time

- Stop clocks and stopwatches can be used to measure **time intervals**.
- An important factor when measuring time intervals is **human reaction time**. This can have a significant impact upon measurements when the measurements involved are noticeably short (less than a second).
- Long periods of time are measured with a clock or a watch. Short times are measured with a stopwatch.
- The SI unit of time is second, denoted by s. The smaller units of time are centisecond, millisecond, microsecond and nanosecond.

**1.2 Speed, Velocity and Acceleration**

Term	Definition
Distance, s	1. Distance is the total path length travelled from one location to another. 2. Quantity: scalar 3. SI unit: metres (m)
Displacement, d	1. The distance in a specified direction. 2. The distance between two locations measured along the shortest path connecting them in a specific direction. 3. The distance of its final position from its initial position in a specific direction. 4. Quantity: vector 5. SI unit: metres (m)
Speed, v	1. Speed (measured in metres per second) is the distance moved by an object each second. 2. The average speed of an object is given by the equation: $\text{Average speed} = \frac{\text{Distance moved}}{\text{Time taken}}$ 3. You can rearrange the equation with the help of the formula triangle: 
	4. Quantity: scalar 5. SI unit: m s <sup>-1</sup>

## Answers

Multiple-choice and structured questions at the end of each chapter test and reinforce students' understanding of concepts and formulae.

Clear, step-by-step solutions are provided as an easy way to check students' workings and answers.

**ANSWERS**

**Chapter 1**

**Multiple-Choice Questions**

- A 2. B 3. B 4. A
- C 6. A 7. E 8. A
- C 10. C 11. E 12. C
- A 14. C 15. C 16. E
- A 18. A 19. B 20. A
- A 22. A 23. A 24. C
- A 26. B 27. A 28. B
- A 30. C

**Structured Questions**

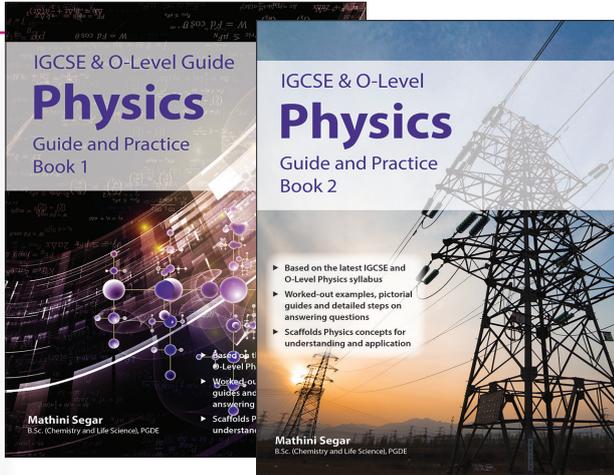
- (a) Length  
(b) 1.20 cm  
(c) Vernier calliper/Micrometer screw gauge  
(d) Parallax error
- (a) Ratchet  
(b) To prevent too much pressure being exerted on the object.  
(c) Reading = 1.85 - (1.00) = 0.85 mm
- (a) Depth measuring blade  
(b) Measure depth  
(c) Negative zero error  
(d) -0.07 cm
- (a) (i) Zero error/Systematic error  
(ii) 0.62 cm  
(b) (i)  $1 = 1.20 \times 1.2 \times 1.2$   
(ii)  $\frac{1}{1.2} = \frac{1.2}{1.2^3} = 0.365 \text{ m}$
- (a) Principle of Conservation of Momentum  
(b) In the same direction as the direction of the boy.  
(c)  $(45)(2.0) + (15)(0) = 45 + 15v$   
 $90 = 45 + 15v$   
 $v = 1.5 \text{ m/s}$   
(d) (i) Snooker/banking a penalty kick

6. (a) Hooke's law

(i) Spring constant, k  
(ii) Energy stored =  $\frac{1}{2}Fx$   
 $= \frac{1}{2}(25.54 \times 10^{-3})$   
 $= 0.01 \text{ J}$

7. (a) Work is the product of the force acted on an object and the distance moved by the object in the direction of the applied force.  
(b) (i) The force applied is the same, i.e. 20 N.  
(ii) The distance moved in Figure M is 5 m with the distance moved in Figure N is zero.  
(iii) Work done in Figure M =  $F \times d$   
 $= 20 \times 5$   
 $= 100 \text{ J}$   
(iv) Work done in Figure N =  $F \times d$   
 $= 20 \times 0$   
 $= 0 \text{ J}$   
(c) (i) Gravitational PE = mgh  
 $= 90(1)(5)$   
 $= 450 \text{ J}$   
(ii) Useful power developed =  $\frac{\text{Energy}}{\text{Time}}$   
 $= \frac{450}{10}$   
 $= 45 \text{ W}$   
(d) (i) Spring constant - high - able to store a large amount of energy when fully wound.  
(ii) Resilience to shock - high - able to last longer without loss in performance.  
Shape - - space saving, does not occupy too much space in the car.

# IGCSE & O-Level Physics Guide and Practice



ISBN: 9789811493102

ISBN: 9789811493126

These books are foolproof Cambridge IGCSE Physics (0625) guides. The books will scaffold concepts and have diagrams that guide students to understand and apply concepts learnt.

The worked-out examples, pictorial guides and detailed steps on how to answer questions will indeed guide students to score well. There are sufficient questions to aid them in checking their understanding on all topics.

## CHAPTER 1 PHYSICAL QUANTITIES, UNITS AND MEASUREMENT

### LEARNING OUTCOMES

- Show an understanding that all physical quantities consist of a numerical magnitude and a unit.
- Recall the following base quantities and their units: mass (kg), length (m), time (s), current (A), temperature (K), amount of substance (mol).
- Use the following prefixes and their symbols to indicate decimal sub-multiples and multiples of the SI units: nano (n), micro (μ), milli (m), centi (c), deci (d), kilo (k), mega (M), giga (G).
- Show an understanding of the orders of magnitude of the sizes of common objects, ranging from a typical atom to the Earth.
- Describe how to measure a variety of lengths with appropriate accuracy by means of tapes, rules, micrometers and callipers, using a Vernier scale as necessary.
- State what is meant by scalar and vector quantities and give common examples of each.
- Add two vectors and determine a result by the graphical method.

KEY WORDS	physical quantity	derived quantity	base quantity	measuring tapes	accuracy	main scale	temperature	magnitude	instrument	substance	speed

### Physical quantities

A physical quantity is a quantity that can be measured. It consists of a numerical magnitude and unit. Some examples of physical quantities are shown below.

#### Examples of physical quantities



## Learning Outcomes & Key Words

Key learning outcomes and key words are listed for each chapter so students know what to focus on.

## Guide Notes

Guide notes consist of detailed pictures, steps and examples for easy understanding and revision of each concept.

### Micrometer Screw Gauge

To measure the diameter of the wire, the thickness of a piece of paper and other short lengths, a micrometer screw gauge (commonly known as micrometer) can be used. The micrometer allows us to measure to a precision of 0.01 mm. The micrometer has two scales - the main scale on the sleeve and the circular scale on the thimble. There are 50 divisions on the thimble. One complete turn of the thimble moves the spindle by 0.50 mm. Hence, each division represents a length of  $0.50 \text{ mm} / 50 = 0.01 \text{ mm}$ .

**Taking measurements using a micrometer screw gauge**

- Check for zero error.**  
Clean surfaces of anvil and spindle and check for zero error.
- Place the object between the anvil and spindle to take a measurement.**  
Place the object between the anvil and the spindle from the ratchet a few times and tighten the lock. This will ensure that there are no gaps between the anvil and spindle. The thimble should never be too tight as it may damage the screw mechanism in the instrument and compress the object being measured.
- Take reading from the main scale.**
- Take reading from the circular scale.**  
Take reading from the circular scale where the line exactly coincides with the datum line on the sleeve.

### Dealing with zero error for a micrometer

Methods to deal with zero error after taking measurements with the micrometer are shown below.

Checking for zero error	Corrected reading
The two zero marks coincide: no zero error	Reading = 8.90 mm (No zero error correction required)
Zero mark on the datum line to the left: a positive zero error of +0.03 mm	Reading = 8.93 mm Corrected reading = $8.93 \text{ mm} - (+0.03) = 8.90 \text{ mm}$ (The positive zero error is subtracted from the reading)
Zero mark on datum line to the right: a negative zero error of -0.03 mm	Reading = 8.87 mm Corrected reading = $8.87 \text{ mm} - (-0.03) = 8.90 \text{ mm}$ (The negative zero error is added to the reading)

### Measurement of time

To measure a time interval, a timing device is used. Such devices may be mechanical or electronic. They include ordinary clocks and watches, stopwatches, ticker-tape timers and electronic light gate timers. Timing devices need to be checked periodically to ensure that they do not run too fast or too slow. The SI unit for time is the **second**.

**Stopwatch**  
Stopwatches are used to measure short intervals of time. There are two types of stopwatches: the digital stopwatch and the analogue stopwatch. The digital stopwatch is more precise as it can measure time in intervals of 0.01 s while the analogue stopwatch can only measure time in intervals of 0.1 s.

### Practice

Summary Questions

- Fill in the blanks.
  - A physical quantity is a quantity that can be measured and **unit**.
  - There are two types of physical quantities: **scalar** and **vector**.
  - List three examples of base quantities: **mass, length, time**.
  - List three examples of derived quantities: **area, volume, speed**.
  - The precision of a metre rule is **1 mm**.
  - The precision of the Vernier callipers is **0.02 mm**.
  - The precision of a micrometer screw gauge is **0.01 mm**.
  - Scalar quantities are quantities that have **only magnitude**.
  - Vector quantities are quantities that have both **magnitude and direction**.
  - List three examples of scalar quantities: **mass, length, time**.

Multiple-Choice Questions

- A pendulum swings backwards and forwards passing through Y, O and X.
  - At Y, the acceleration is **zero**.
  - At O, the acceleration is **at its maximum**.
  - At X, the acceleration is **at its maximum**.

The first time the pendulum passes through Y, a stopwatch is started. The pendulum passes through Y, the stopwatch is stopped. The period of the pendulum is  $\frac{1}{10}$  s.

- A micrometer is used to measure the thickness of a sheet of glass. The micrometer reading is shown in Diagram 1. When the glass sheet is placed against a ruler, the micrometer reading is shown in Diagram 2.
  - What is the thickness of the glass sheet?
    - 2.05 mm
    - 2.00 mm
    - 2.05 mm
    - 2.00 mm

### ANSWERS

Chapter 1

- (a) numeric value, unit  
(b) base quantities, derived quantities  
(c) mass, time, temperature  
(d) density, speed, weight  
(e) 0.1 cm  
(f) 0.01 cm  
(g) 0.01 mm  
(h) magnitude  
(i) mass, time and temperature  
(j) mass, time and temperature

2. D C C A A S B C C  
7. B 8. A 9. A 10. B 11. B  
12. A 13. D 14. B 15. A 16. C  
17. A 18. D

19. Using a scale of 1 cm : 1 N, the resultant force, R, is 2.5 N and it makes an angle of 18° with the 0 N force.

20. (a) A vector quantity is a physical quantity that has both magnitude and direction.  
(b) A scalar quantity is a physical quantity that has magnitude only.  
(c) As the forces are in equilibrium,  $T_1 = T_2 = 30 \text{ N}$   
 $T_3 = 20 \text{ N}$   
 $T_4 = 17.3 \text{ N}$   
 $T_5 = 17.3 \text{ N}$   
 $T_6 = 20 \text{ N}$   
 $T_7 = 30 \text{ N}$   
 $T_8 = 100 \text{ N}$

Chapter 2

- B 2. D 3. B 4. C 5. B  
6. A 7. B 8. D 9. C 10. A  
11. A

12. (a) Distance =  $12 \times (20 - 12)$   
 $= 96 \text{ m}$   
(b)  $\frac{20 - 12}{12 - 20} = 2.67 \text{ m/s}^2$   
(c) Distance travelled in 30 s  
 $= \frac{1}{2} \times 40 \times 10$   
 $= 200 \text{ m}$

The distance between the error point and end-point of the line is 10.0 m. Hence, the second car will not be able to reach the end of the line in 30 s.

13. (a) The stone falls with constant acceleration. The speed of the stone is increasing at a uniform rate.  
(b) Area under the speed-time graph between A and B is greater than that between C and D.  
(c) (i) Speed is a scalar quantity, requiring only magnitude to be defined.  
(ii) Velocity is a vector quantity, requiring both magnitude and direction to be defined.  
(d) 2 m/s  
(e) (i) -1 - (-1) = 18 m/s

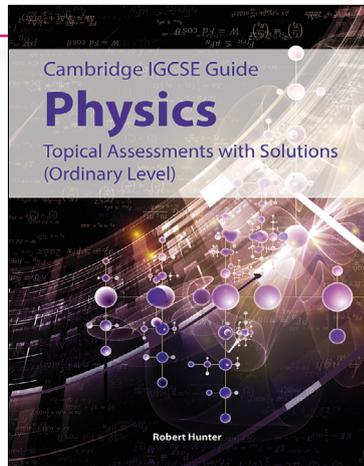
Chapter 3

- (a) resistance  
(b) resultant force, resultant force, acceleration  
(c) an object remains at rest or in uniform motion in a straight line unless a force is applied to it.  
(d) mass and acceleration, same as before the centre of the circle.  
(e)  $F = A \times x$ , where  
 $F$  = elastic spring force,  $x$  = spring constant,  
 $x$  = extension / compression of spring  
(f) (i) length  
(ii) direction  
(iii) label

## Practice Questions

Practice questions with answers allow students to test their understanding of each concept and self-evaluate.

# Physics Topical Assessments with Solutions



ISBN: 9789811449277

This book is written based on the latest Cambridge IGCSE Physics syllabus (0625) to hone critical thinking and problem-solving skills in students.

A balanced mix of simple and challenging questions tests and reinforces students' understanding of concepts and formulae. Answers are provided for reference.

## Extensive Chapters

The five topics of the syllabus are divided into 24 chapters that each provide a focused and comprehensive coverage of the subject matter.

### Contents

Chapter 1	Measurements	1
Chapter 2	Describing Motion	4
Chapter 3	Forces and Motion	7
Chapter 4	Momentum	10
Chapter 5	Turning Effect of Forces	13
Chapter 6	Forces and Matter	17
Chapter 7	Energy	21
Chapter 8	Energy Resources	24
Chapter 9	Work and Power	26
Chapter 10	Kinetic Model of Matter	29
Chapter 11	Thermal Properties of Matter	32
Chapter 12	Thermal Energy Transfer	35
Chapter 13	Waves	37
Chapter 14	Sound	40
Chapter 15	Light	42
Chapter 16	Spectra	45
Chapter 17	Static Electricity	47
Chapter 18	Electrical Quantities	50
Chapter 19	Electric Circuits	52
Chapter 20	Magnetism	55
Chapter 21	Electromagnetism	58
Chapter 22	Electromagnetic Induction	61
Chapter 23	Nuclear Atoms	63
Chapter 24	Radioactivity	65
	Answers	67

## Multiple-Choice Questions

Meticulously crafted, multiple-choice questions are presented in this book to test students regarding the most salient content in the syllabus.

**CHAPTER 1**  
**MEASUREMENTS**

1. The density of a liquid is 1.2 g/cm<sup>3</sup>. What are the mass and volume of the liquid?

	Mass (g)	Volume (cm <sup>3</sup> )
A.	4	8
B.	6	5
C.	8	3
D.	10	5

2. Metal object

What is the length of the metal object?

A. 4.5 mm  
B. 9.5 mm  
C. 4.5 cm  
D. 4 mm

3. Which instrument can accurately measure the internal diameter of a pipe?

A. Metre ruler  
B. Micrometer  
C. Vernier calliper  
D. Measuring cylinder

4. Energy is measured in joules. Which is the correct symbol for mega joules?

A. mJ  
B. MJ  
C. MJJ  
D. mj

Cambridge IGCSE Guide Physics Topical Assessments (Ordinary Level)

5. Which of the following is the correct unit of the quantity?

Quantity	Unit	
A.	Density	kg/m <sup>3</sup>
B.	Energy	W
C.	Weight	kg
D.	Work	J

6. A sheet of paper has a grammage of 70 g/m<sup>2</sup>. This means that 1 m<sup>2</sup> of the paper has a mass of 70 g. The thickness of the paper is 0.1 mm. What is the density of the paper?

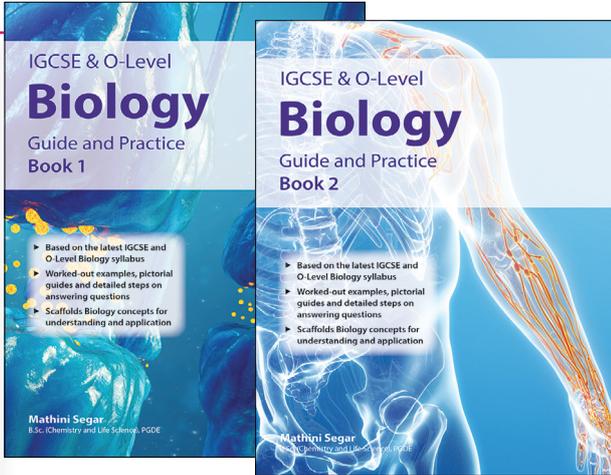
A. 70 kg/m<sup>3</sup>  
B. 700 kg/m<sup>3</sup>  
C. 7000 kg/m<sup>3</sup>  
D. 70000 kg/m<sup>3</sup>

7. A pendulum is swinging and the time is recorded. The time taken for 15 swings is 25 s. What is the period of the pendulum?

X Y Z

A. 1.67 s  
B. 0.6 s  
C. 0.67 s  
D. 1.6 s

# IGCSE & O-Level Biology Guide and Practice



ISBN: 9789814996198 ISBN: 9789814996495

This book is an extremely easy to use guide for Cambridge IGCSE and O-Level Biology. The book will scaffold concepts and has diagrams that guide students to understand and apply concepts learnt.

The worked-out examples, pictorial guides and detailed steps on how to answer questions will equip students to score well. There are sufficient questions that would aid them to check their understanding on all topics.

## Organised Chapters

Includes learning objectives and key words to help students in their revision.

## Detailed Diagrams

Diagrams are detailed to enhance understanding of key topics.

## Answer Key

Answer key provided for effective revision.

**CHAPTER 1 CELL STRUCTURE**

**LEARNING OUTCOMES**

**CHAPTER 8 TRANSPORT IN PLANTS**

**LEARNING OUTCOMES**

- Identify the positions and explain the functions of xylem vessels, phloem (sieve tube elements) and companion cells in sections of a herbaceous dicotyledonous leaf and stem, using the light microscope.
- Relate the structure and functions of root hairs to their surface area, and to water and ion uptake.
- Explain the movement of water between plant cells, and between them and the environment in terms of water potential (calculations on water potential are not required).
- Outline the pathway by which water is transported from the roots to the leaves through the xylem vessels.
- Define the term transpiration and explain that transpiration is a consequence of gaseous exchange in plants.
- Describe and explain:
  - the effects of variation of air movement, temperature, humidity and light intensity on transpiration rate;
  - how wilting occurs.
- Define the term translocation as the transport of food in the phloem tissue and illustrate the process through translocation studies.
- Use the knowledge gained in this section in new situations or to solve related problems.

**KEY WORDS**

vascular bundle	companion cell	epidermis	cuticle	suction force
mesophyll cell	sieve tube	collenchyma	vacuole	organelle
diffuse layer	sieve plate	tubular	mitochondria	potometer
companion cell	collenchyma	xylem	light	transpiration
transpiration pull	cuticle	nucleus	flaccid	path
epidermal cell	cell sap	suber	stuck	colony
turgor pressure	transpiration stream	wet	humid	stomata
photoglycolysis	active transport	latent heat of vapourisation		
dicotyledonous	transpiration			

**DEFINITION**

The cell is the smallest and simplest, basic form of life. Life can respire and produce energy to grow and carry out the functions of cells. Plants and other living things are also made of cells.

**ANSWERS**

**Chapter 8**

1. (a) (b) Correct (c) The water potential in the soil must be higher than the water potential inside the root hair cell. This would make the water potential outside the root hair cell lower than the water potential inside the root hair cells. The plant will not be able to absorb water and will die. (d) Transpiration is water vapour that is lost to the surroundings from the stomata of the leaves. (e) The higher the humidity, the lower the rate of transpiration. (f) The higher the temperature of the surrounding air, the faster the rate of transpiration. (g) True (h) False (i) False (j) False (k) False (l) False (m) False (n) A, C, E, G, I, K, M, O, Q, S, U, W, Y, A, C, E, G, I, K, M, O, Q, S, U, W, Y (o) A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z (p) A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z (q) Upper surface of C. Ficus has 18 stomata while B. Marchantia has 18 Lower surface of C. Ficus has no stomata while B. Marchantia has 22 (r) Water vapour is only lost when stomata are open. Stomata usually open during the day, resulting in a greater amount of water vapour loss (transpiration). This causes the colour change in cobalt chloride paper. (s) Stomata usually closed at night.

191

**1 Cell Structure**

Organelles carry out many functions in the cell. You will learn more about them in later parts of this chapter. Many organelles, such as mitochondria, centrioles and ribosomes are not visible under the light microscope. They can only be studied under the electron microscope.

**Nucleus**

The nucleus consists of a small round mass of denser protoplasm called nucleoplasm, surrounded by a membrane called the nuclear envelope.

**Functions of the nucleus:**

- It controls cell activities such as cell growth and the repair of worn-out parts.
- It is essential for cell division. Cells without a nucleus, like the red blood cells of a mammal, are unable to divide.

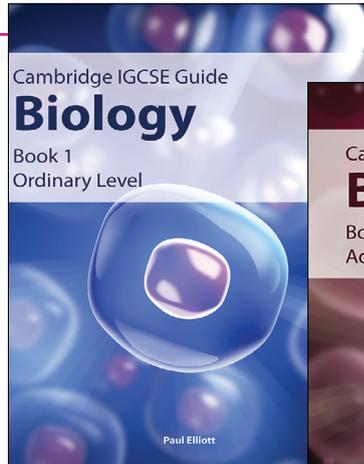
The nucleus contains one or more nucleoli (singular: nucleolus) and chromatin. You will learn more about chromatin later on in this section.

**Cell wall**

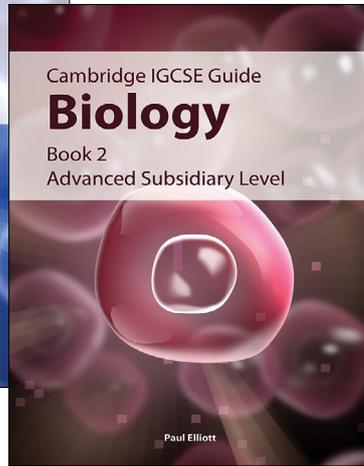
A plant cell also has a cell wall that encloses the entire plant cell, surrounding the cell surface membrane. This cell wall is made of cellulose. It protects the cell from injury and gives the plant cells a fixed shape. The cell walls are fully permeable. The cell wall is absent in animal cells.

3

# Biology



ISBN: 9789811449246



ISBN: 9789811449253

New biological discoveries are made each day, which add to our knowledge and understanding of the world and make it a safer and healthier place to live. These books explore these discoveries in a way that not only provides an assessment of facts, but also considers the moral, ethical and economic implications which they present.

These books aim to make a successful evaluation of students' study. They will help students to reach their highest potential and achieve the best possible grade. Unlike traditional revision guides, they also give advice on improving answers, helping to show what examiners expect of candidates.

**Contents**

1	THE MICROSCOPE	1
2	THE CELL	4
3	FOOD TESTS	19
4	CARBOHYDRATES	23
5	LIPIDS	33
6	PROTEINS	44
7	WATER	73
8	GENERAL QUESTIONS ON BIOMOLECULES	76
	ANSWERS	89

**ASSESSMENT 1**

- A living organism cell obtains energy to survive by performing its own metabolic reactions and getting rid of metabolic by-products. Which characteristics are these?
  - Nutrition and movement.
  - Metabolism and excretion.
  - Sensitivity and respiration.
  - Respiration and excretion.
- Mimosa pudica leaves defend themselves by drooping and folding inwards when touched or shaken. The leaves re-open a few minutes later. What other five processes must Mimosa pudica carry out to stay alive?
  - Excretion, sensitivity, growth, respiration and movement.
  - Excretion, movement, growth, nutrition and respiration.
  - Nutrition, growth, reproduction, respiration and excretion.
  - Nutrition, movement, reproduction, sensitivity and excretion.
- Euglena is a genus of single cell protist that has chloroplasts and moves towards light by the means of the flagella. Which characteristics are these?
  - Growth, respiration and movement.
  - Nutrition, sensitivity and movement.
  - Nutrition, respiration and movement.
  - Growth, sensitivity and movement.
- Cyanobacteria are a phylum of bacteria that obtain their energy through photosynthesis. Their colonies can be produced through binary fission. Which characteristics are these?
  - Nutrition, excretion and reproduction.
  - Nutrition, growth, reproduction, respiration and excretion.
  - Nutrition, sensitivity and reproduction.
  - Growth, sensitivity and respiration.

Cambridge IGCSE Guide Biology Book 2 Advanced Subsidiary Level

10. Which structure synthesizes proteins for use outside the cell?

11. Which organelle(s) in plant cells has/have a double phospholipid bilayer?

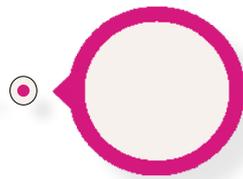
- Chloroplast
- Lysosomes
- Mitochondria
- Nucleus

12. Which of the following properties about plant and animal cells are correct?

Plant Cell	Animal Cell
A. Has both cell wall and plasma membrane; may contain glycogen	Has no cell wall but has plasma membrane; may contain starch
B. Has both cell wall and plasma membrane; may contain starch	Has no cell wall but has plasma membrane; may contain glycogen
C. Has no cell wall but has plasma membrane; may contain glycogen	Has both cell wall and plasma membrane; may contain starch
D. Has no cell wall but has plasma membrane; may contain starch	Has both cell wall and plasma membrane; may contain glycogen

13. What is the function of the cell wall in a plant cell?

- Active transport of ions.
- Communication with other cells by means of glycoproteins.
- Formation of vesicles for transport of large molecules.
- Prevents excessive water uptake by the cytoplasm.



## Aligned to Syllabus

The chapters are arranged in the same sequence as the O level, AS level and A2 level Cambridge Biology syllabus. The assessment questions cover the requirements as well.

## Answers

Answers provided come with clear breakdowns of the mark allocations.

**ANSWERS**

**Chapter 1**

1. A 2. A 3. B 4. A 5. B  
6. C 7. C 8. A 9. D 10. B

**Chapter 2**

1. A 2. C 3. B 4. C 5. B  
6. C 7. C 8. D 9. B 10. C  
11. C 12. B 13. D 14. D 15. C  
16. A 17. A 18. B 19. B 20. C  
21. B 22. B 23. B

24. The Golgi body is a stack of flattened sacs / cisternae [1]  
More than one Golgi body may be present in a cell [1]  
The stack is constantly being formed at one end from vesicles which bud off from the ER [1] and are broken down again at the other end to form Golgi vesicles [1]  
The Golgi body collects, processes and sorts molecules (particularly proteins) from the rough ER [1] to prepare these molecules for transport to Golgi vesicles to other other parts of the cell or out of the cell (secretion) [1]

25. The ER, an extensive system of flattened membranes sac-like structure consisting through the cytoplasm [1], is continuous with the outer membrane of the nuclear envelope [1]  
The rough ER is covered with many tiny organelles called ribosomes [1]  
These ribosomes have a 25-nm diameter and are composed of two subunits: a large subunit and a small subunit [1]  
The ribosomes which are composed of ribosomal (ribonucleic, acid) and protein [1] are the sites of protein synthesis [1]

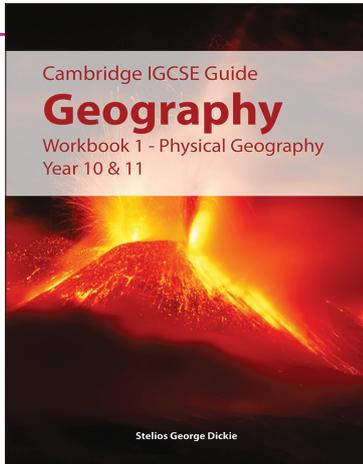
26. Centriomes consist of a pair of centrioles at right angles [1] that is involved in nuclear division [1] and acts as MTOCs [1]  
A centriole is formed by a ring of microtubules which act as the MTOCs for the assembly of the microtubules [1] that make up the spindle during nuclear division [1]

27. Mitochondria are usually about 1 µm in diameter and can be in various shapes, often sausage-shaped [1]  
They are surrounded by 2 membranes (an inner one and an outer one) which project into the intermembrane space [1]  
The inner membrane is folded to form finger-like cristae which project into the intermembrane space, or matrix. The inner membrane is much more selective and controls precisely what ions and molecules can enter the matrix [1]  
Mitochondria carry out aerobic respiration which produces ATP [1] through a process known as oxidative phosphorylation [1]. The ATP produced in the mitochondria readily diffuses to parts of the cell where energy is needed [1]  
The mitochondria is postulated to have evolved from bacteria as it shares the same ribosome size (70S) and circular DNA features as bacteria [1]

28. Lysosomes are spherical sacs with a diameter of 0.5–0.5 µm [1] and are surrounded by a single membrane and have internal structure [1]. The lysosomes contain digestive (hydrolytic) enzymes [1] and are responsible for the breakdown (digestion) of unwanted structures such as old organelles or even whole cells [1].

29. The main function of chloroplasts is to carry out photosynthesis [1]  
Chloroplasts have a diameter of about 3 to 10 µm and have a highly-organized membrane system [1]

# Physical Geography



Cambridge IGCSE Guide  
**Geography**  
Workbook 1 - Physical Geography  
Year 10 & 11

Stelios George Dickie

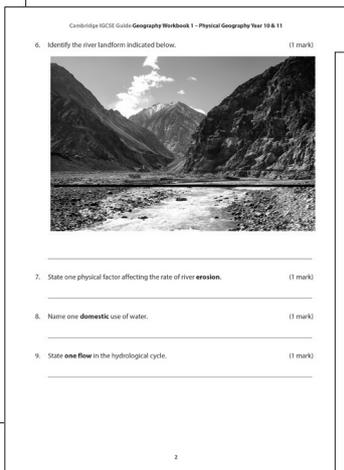
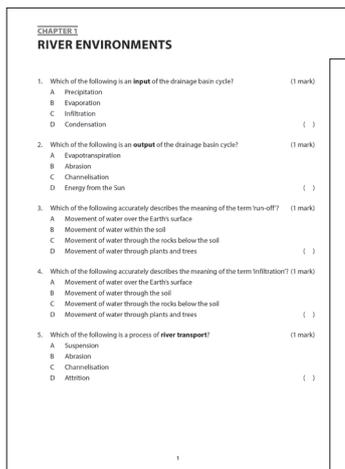
ISBN: 9789811449338

Cambridge IGCSE Guide: Geography Workbook 1 – Physical Geography Year 10 & 11 is written based on the latest IGCSE Geography syllabus.

The questions are designed to stimulate and reinforce the different skills required for the examination.

## Various Practice Questions

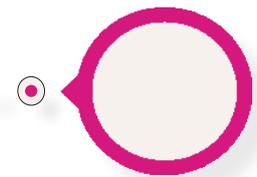
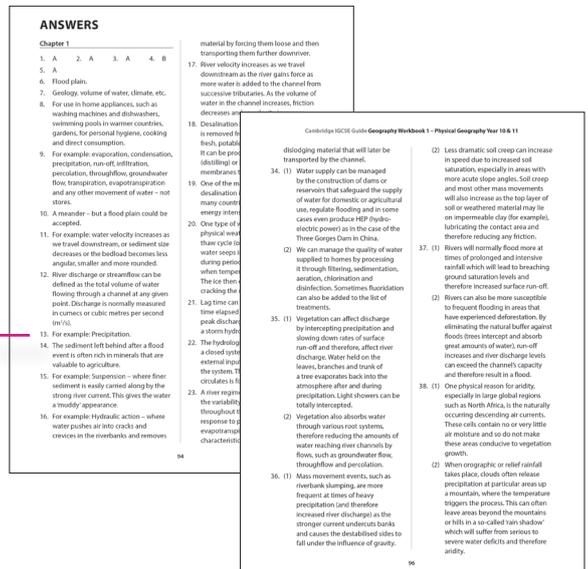
This book features multiple choice, structured and short essay questions that thoroughly cover the subject matter.



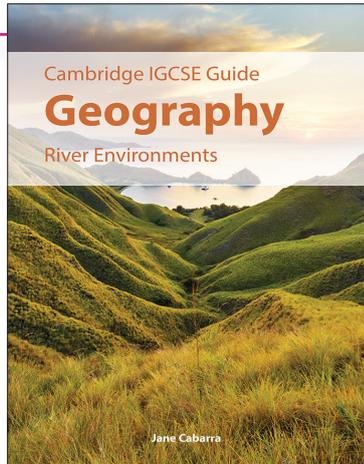
## Answers

Detailed answers for structured and short essay questions are provided to teach students how to construct their answers in a cogent manner.

Answers also impart to students real-world information and statistics that are essential to tackle case study questions.

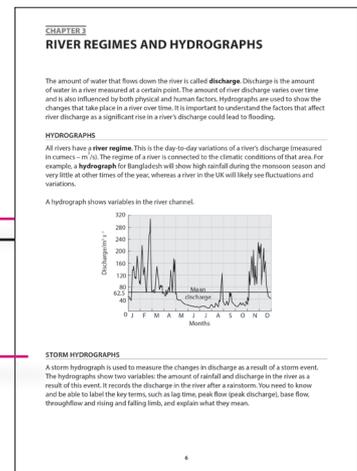


# Geography – River Environments



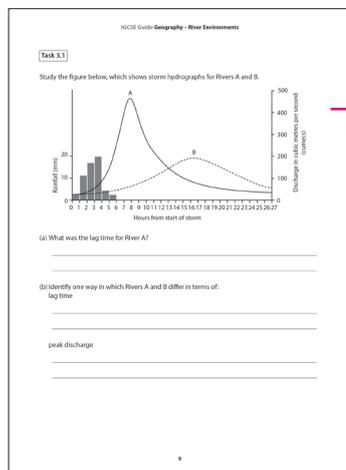
ISBN: 9789811449284

Cambridge IGCSE Guide: Geography – River Environments is written based on the latest IGCSE Geography syllabus. This book provides comprehensive information on the processes, features and management of river environments.



## Topic Summaries

Each chapter provides a convenient summary of the various key terms and concepts.

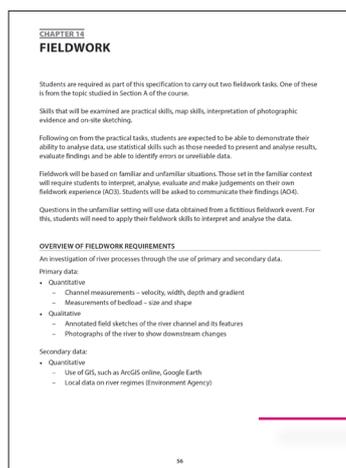
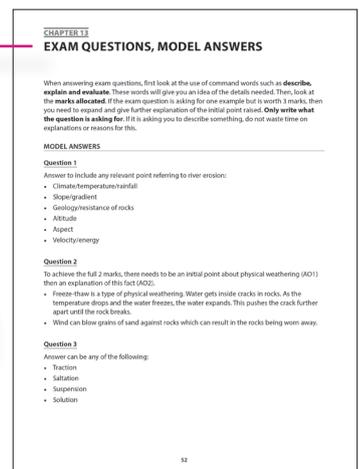


## Tasks

Students can attempt tasks to recall and apply their knowledge.

## Exam Questions, Model Answers

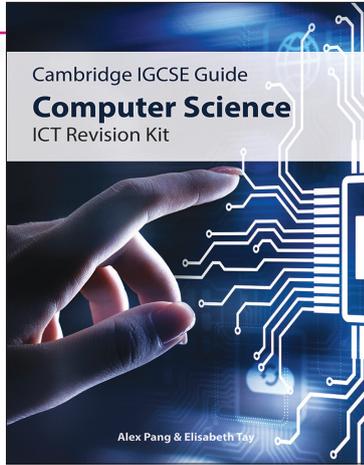
This is a chapter with tips and guides on how to answer and attain full marks for each question in a typical examination.



## Fieldwork

A detailed, step-by-step guide to river fieldwork prepares students before they embark on their field trips. Students can monitor their learning progress by referring to the checklist.

# Computer Science ICT Revision Kit



ISBN: 9789811449345

This book has been written to meet the requirements of students who are reading the IGCSE 0417 syllabus. Ever since this syllabus was introduced, there has been a demand for a guide with questions and answers.

A dedicated attempt has been made to make the book useful and stimulating. Students often lack confidence when answering certain questions due to a lack of practise. In response, this book aims to equip both students and teachers with a basic approach to answering questions.

## Comprehensive Questions & Tasks

The questions cover the topics in the syllabus. There are also tasks that are a combination of different topics as the applications can be overlapping.

### Contents

**QUESTION SECTION**

- Introduction
- Chapter 1 Types and Components of Computer Systems
- Chapter 2 Input and Output Devices
- Chapter 3 Storage Devices and Media
- Chapter 4 Networks and the Effects of Using Them
- Chapter 5 The Effects of Using IT
- Chapter 6 ICT Applications
- Chapter 7 The Systems Life Cycle
- Chapter 8 Safety and Security
- Chapter 9 Audience
- Chapter 10 Communication

**COMBINED TASKS FOR CHAPTERS**

Tasks 1 to 12

**ANSWERS TO QUESTIONS**

**ANSWERS TO COMBINED TASKS FOR CHAPTERS**

### CHAPTER 1 TYPES AND COMPONENTS OF COMPUTER SYSTEMS

1. Name and explain two components of a computer.

2. Name three internal hardware devices and explain their functions.

3. (a) Name three parts that make up a CPU.

(b) State the function of a CPU.

4. (a) List two types of main memory.

Cambridge IGCSE Guide Computer Science ICT Revision Kit

7. Choose the correct word from the helping words given and match it to each device pictured below.

CD-ROM    Printer    Flash drive    Monitor    Memory card    Projector  
Keyboard    Barcode reader    Speakers    Microphone    External hard drive

A \_\_\_\_\_ B \_\_\_\_\_  
C \_\_\_\_\_ D \_\_\_\_\_  
E \_\_\_\_\_ F \_\_\_\_\_  
G \_\_\_\_\_ H \_\_\_\_\_  
I \_\_\_\_\_ J \_\_\_\_\_  
K \_\_\_\_\_



Cambridge IGCSE Guide Computer Science ICT Revision Kit

**Task 1**

1. (a) Graphics manipulation allows bitmap and vector images to be changed.
  - (i) True
  - (ii) False
- (b) Video editing software allows a user to manipulate videos to produce an edited video.
  - (i) True
  - (ii) False
- (c) Virtual Reality is an artificial environment which is created by software.
  - (i) Database is used to organise, manipulate and store data.
    - (i) True
    - (ii) False
  - (ii) Photo editing allows a user to manipulate digital photographs stored on a computer.
    - (i) True
    - (ii) False
  - (iii) Device drivers are the programs that enable one or more hardware devices to communicate with the computer's operating system.
    - (i) True
    - (ii) False
  - (iv) Motherboard is a printed circuit board found in all computers.
    - (i) True
    - (ii) False
  - (v) Linker is a computer program that takes one or more object files produced by a compiler and combines them into a single program that can run on a computer.
    - (i) True
    - (ii) False
  - (vi) Utilities are software that has been designed to carry out specific tasks on a computer.
    - (i) True
    - (ii) False
- (d) Visual verification:
  - (i) Text or data is usually compared with original data.
    - (i) True
    - (ii) False
  - (ii) Double data entry:
    - (i) Data is typed in twice and a computer compares the two versions.
      - (i) Name
      - (ii) Gender
      - (iii) Customer number/ID
      - (iv) Address
      - (v) Postal code
      - (vi) Home/Mobile phone number
      - (vii) Home/Mobile phone number
      - (viii) Email address
      - (ix) Car registration number(s)
    - (ii) Button to clear the form
    - (iii) Button to the first record from
    - (iv) Button to end of the file/new record
    - (v) Button to the previous record from
    - (vi) Button to the next record from
    - (vii) Submit/confirm button
    - (viii) Space to enter required record number
    - (ix) Search facility/engine
    - (x) Button to go to sub-form
- (e) Flight/pilot simulation/training:
  - (i) Large scale chemical experiments
  - (ii) Design of foreground slides
  - (iii) Design of large buildings/bridges
  - (iv) Traffic control
  - (v) Building the simulation
  - (vi) Car driving simulation
  - (vii) Drug trials
  - (viii) Real thing may be too expensive to build
  - (ix) Real thing requires too large a time scale
  - (x) Real thing is too vast a scale to carry out
  - (xi) Real thing may occur too rarely
  - (xii) Rate of change can be obtained for the human eye to detect
- (f) Keyboarding in data:
  - (i) Barcode reader
  - (ii) A magnetic stripe reader
  - (iii) Touch screen
  - (iv) Scanning barcodes/swiping magnetic stripe/ touch screen allows for fast data entry/typing in data manually can be slow
  - (v) Scanning barcodes/swiping magnetic stripe/ touch screen reduces error/typing in data manually can lead to data errors
  - (vi) Keyboard/touch screens are robust/barcodes can be flimsy

**Task 2**

1. (a) Questionnaires
- (b) Interviews
- (c) Examination of documents
- (d) Observation
- (e) To detect typing errors/data entry errors/transcription errors

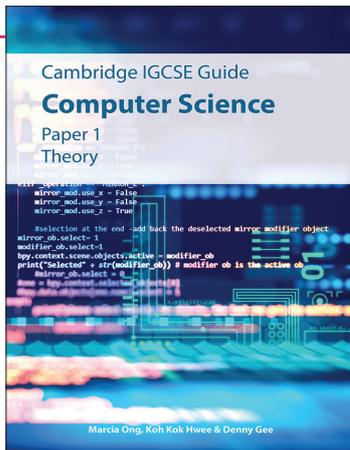


## Answers

Answers are provided for self-evaluation and understanding of how to answer the questions.

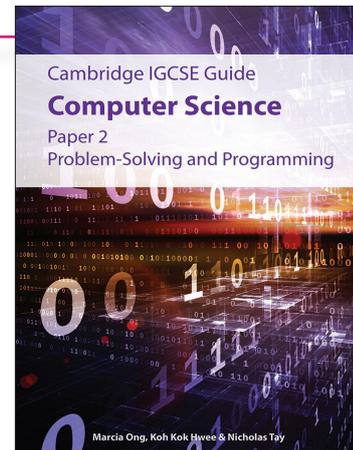
# Computer Science

These books were written to aid students in their revision for the Cambridge IGCSE Computer Science examination. The questions and answers were selected to be representative of what students should expect to encounter in the actual examination. It is our hope that using this book as a revision aid will adequately prepare students for the nature and difficulty of the questions they will likely encounter, and the appropriate way to answer them.



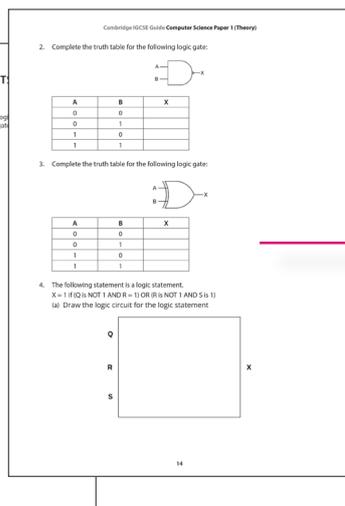
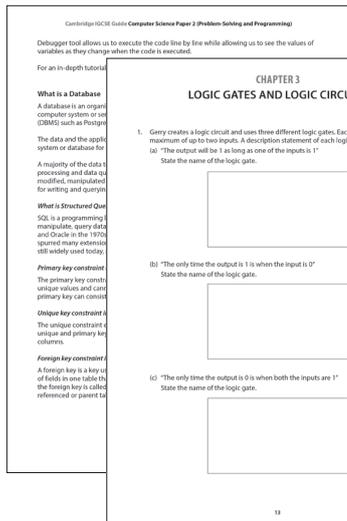
**Paper 1**  
ISBN: 9789814996099

The first chapter of this book serves as a quick introduction to the tools students will need as well as some basic information to get started. The next three chapters contain practice questions to prepare for the examination.



**Paper 2**  
ISBN: 9789814996020

The questions included in this book have been split into eight chapters for the students' ease in identifying and revising for the assessed topics in the syllabus.

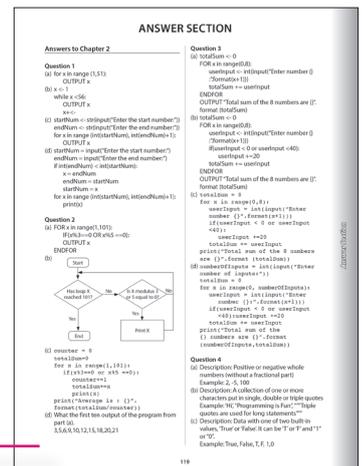


## Practice Questions

Plenty of practice questions for students to apply what was learnt for each chapter.

## Answers

Answers can be found at the back of the books for marking and correction after the practice questions have been attempted.





# A-Level

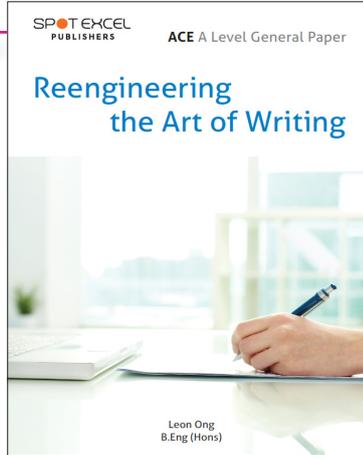
▶ General Paper

▶ Mathematics

▶ Science

▶ Economics

## Reengineering the Art of Writing



ISBN: 9789811476525

Reengineering the Art of Writing aims to help JC students tackle the nuances behind effective writing. A book like no other, it expands on the TEEL formula. The author explores in great detail what conditions a student must fulfil to accomplish a great Topic Sentence, Elaboration, Example and Evaluation as well as a noteworthy Conclusion. Along with other techniques to spice up a paragraph, the reader is left with the takeaway that elegant writing can be practised in an enjoyable way.

As part of the book, the author also imparts a revolutionary formulaic approach to writing – the Science and the Arts approach. Through this methodology, students will be able to identify the most relevant examples and permanently retain them. Couple this approach with the ability to fully address the crux of any question at hand and pre-examination preparation for Paper One will be a breeze.

### TEEL Format

Teaches students an effective way to structure their essays for better writing.

As a recap, we have covered the TEEL formula with the inclusion of a "Regulation" for better level management. The flow is now ripe to showcase the main difference between the Secondary School expository paragraph and that in Junior College.

Presenting... the basic JC paragraph.

Abbreviation	Level	Sample Sentence
T Topic Sentence	Global	Technology elevates the quality of life of people as its ability to overcome human physical weakness has allowed greater independence to and empowerment in its users.
E Elaboration	Global	In particular, technology excels remarkable prowess in leveling the playing field between the healthy and the disabled. By instilling confidence and independence, technology has allowed man to achieve greater equality and brotherhood in our weaker ranks.
E Example & Evaluation	Example	One good example is Oscar Pistorius, the South African Blade Runner, who as a double amputee and with the help of prosthetics, was able to compete on an equal footing with fully able-bodied runners at the 2012 Olympics.

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Back to basics Chapter 1 9

### Question Parameters

Show strategies for planning of essays.

#### Parameters For Assignment Question 02

Question	Science gathers knowledge much faster than society gathers wisdom (Isaac Asimov). Do you agree?
Function	Enough Regulations (previously Play God)
Domains	AI (Supported by similar Example cloning)
Examples	ISS, 2019 AI Regulation Framework
Logic	Disagree with question, show that man has shown wisdom in his pursuit of Science.
Clue 01	What are the values exemplified by man here to show wisdom?
Clue 02	What is the difference between and purpose of the principles? What are the broad areas that these two principles are trying to govern?
Clue 03	You might wish to consider this regulation from the perspective of "curb the harm and allow the benefits to pass through"

98 Chapter 7 Practice Assignments

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### 4 Writing The Example & Evaluation

In my own classes, I often find it easier to address the Example and the Evaluation together as they reside on the same level in writing – the Example level.

Instead of starting with what we should do, let's begin with one common mistake we should avoid.

#### COMMON MISTAKE – DO NOT STACK EXAMPLES

This is a common mistake made by many students. Most students find it highly intuitive to reorganize their examples in sequence, especially students who are well read and have many similar examples at their disposal. Let's return to the SAT question to take a look at why this might be a problem.

Below are a few similar examples on "Prosthetics"

Country	Individual	Description
(South Africa)	Oscar Pistorius	Oscar Pistorius, the South African Blade Runner, is a double amputee who, with the help of prosthetics, was able to compete on equal footing with able-bodied runners at the 2012 Olympics.
(USA)	Bethany Hamilton	Bethany Hamilton returned to professional surfing after suffering a shark attack with the help of a prosthetic arm.
(UK)	Kieran Sorokin	Kieran Sorokin was born without ears – a condition called microtia. Doctors in UK performed a cosmetic medical procedure to craft ears for him from the cartilage of his elbow. His psychological well-being improved as he stopped standing out from his friends and other children stopped teasing him. After the operation, he was able to interact at an elevated social capacity.

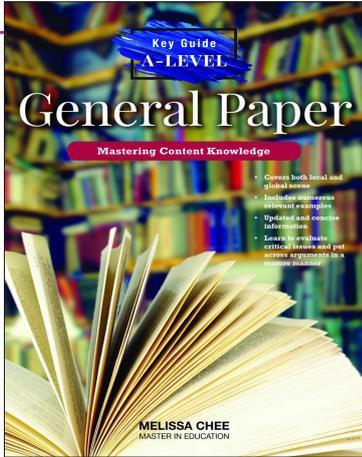
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Writing the example & evaluation Chapter 4 41

### Common Mistakes

Common mistakes are shown so that students can learn not to make them.

# Content Knowledge



**Mastering  
Content Knowledge**  
ISBN: 9789811184345

Following the syllabus, this book covers a diverse range of topics including the broader subjects such as education, equality, sports, governance, etc. It aims to present updated and concise information on specific topics, while offering inter-topic linkages and all rounded arguments. This encourages students to make use of their critical thinking to look at issues that affect not just themselves, but others around the world. Multiple conflicts and examples, along with explanations and evaluations are also presented to help students learn to evaluate issues and put across their arguments in a mature manner.

While students will be given a stepping stone in content by the end of the book, they should supplement their skills by brainstorming other arguments to add in their personal voices. This way, they will be able to craft creative yet mature essays quickly during the examination.

**INTRODUCTION**

Education is a word that half of the world seems to dread and shun away from, while for from much from the other half, this education comes cheap and many more see it as a right. Despite its education is something that a large proportion of the world have to fight for – because where they live simply does not entice them the rights of holding their thirst of knowledge.

One of an apt example of how education is a privilege to many is Malala Yousafzai, who fought for the right to education in Pakistan. In recent years, she has been more of a role model than Malala Yousafzai. Her relentless fight for education has inspired her to win something as an international award, she is even more determined to bring awareness to education equality.

From 1997 in Pakistan during the height of Taliban rule, education for girls was at risk and she felt this was unfair. Malala and her father, despite receiving death threats, have brought light to millions of children around the world who are the same.

Today, she has opened up the Malala fund, which brings awareness to the social and economic issues of girls education and works to empower girls. More impressively, at the age of 15, she has inspired other girls, as she said in a speech, "One child, one teacher, one book, one future." Malala's strength and perseverance truly has sparked an idea and given women around the world the courage to fight for their rights.

The fight against radical organisations who are against education for women is not only for women around the world, but also for men and women in less developed countries as well. Therefore, such social movements that a idea is being about a sense of change and will be able to help the gender and allow education to be a necessity attainable for all.

**SIGNIFICANCE OF EDUCATION IN SINGAPORE**

**Economic Significance**

Education has been, especially in the recent years, known to be the golden ticket out of the poverty cycle, when put in a less complex manner, it basically generations and poverty as one of the generations are able to get out of it or attain enough money to allow education to be a necessity attainable for all.

In today's profit-driven and capitalist world, a degree seems to be an essential ticket out of the poverty cycle. The number of degree holders and university graduates have been rising and one does not have an education background that let them to their would be based on the waiting list of the waiting list for competition in this harsh and fast-paced world.

**A-Level General Paper: Mastering Content Knowledge**

In other words, religious differences may be the very reason for such apparent segregation amongst different groups, leading to a more divided society since divisions along these lines are reinforced. This is made worse due to the fact that matters concerning an often very sensitive and touchy subject and religious differences are difficult to reconcile.

**Terrorism**

Today, terrorism stems from radicals who aim to promote and fight for the acceptance of their own religion. With militant groups such as ISIS using means of violence to attain their goal, their acts of terror has led to personal and name-related individuals, associating an entire religion or social group with terrorist acts committed by only a small proportion of extremists.

This erroneous analysis of the terrorist threat and religiously and socially derogatory assumption will lead to backlash as it is a very shallow generalisation and it causes innocent individuals of the targeted race or religion to become scapegoats for the true perpetrators of the terrorist acts.

When in face of such matters, the State often takes a non-religious and secular stance so as to prevent the propagation of the idea that religious extremism and fundamentalism is associated to only particular racial or religious groups. Issues of religious divergence and terrorism should not be seen as a single matter as failure to do so would incite religious and racial prejudice which may also be misconstrued as acts of institutionalised discrimination by the state. Once this idea is adopted by the nation, it would be a very challenging task to scrape the mentality.

**CONFLICTS AROUND THE WORLD**

**Rohingya Muslims in Myanmar vs Buddhists**

The Rohingya Muslims divide is due to Myanmar's colonial past, where different races were accorded different treatment under the British rule. The Rohingya often encounter prejudice from the native Burmese as they are seen as illegal Bangladeshi immigrants. Hence, the Rohingya' close ethnic association to Bangladesh makes them a target for Burmese resentment.

In 2012, a riot was triggered by the gang rape and murder of a Burmese woman by 10 Rohingya men. In retaliation, those 10 Rohingya men were killed and this incidence spiralled into a violent racial conflict.

## Global Issues

Content includes both national and international issues for a greater scope.

## Examples

Relevant examples are included for each topic referenced to increase students' knowledge.

**Religion**

There are also landmark achievements like the election of Bishop Katharine Jefferts Schi as the presiding bishop and primate of the Episcopal Church, and the election of Dr. Ingrid Mattson as the first woman president of the historic Society of North America, but the gradual use of women leaders in the world of religion over the last forty to fifty years has been largely "under the radar".

On the other hand, we cannot ignore the fact that many to have a deeply entrenched assumption that men are more at risk of being targeted, fighting for women rights aims to attain equality between both genders, but this does not mean only women are disadvantaged. There are certain aspects in which men do not have the upper hand.

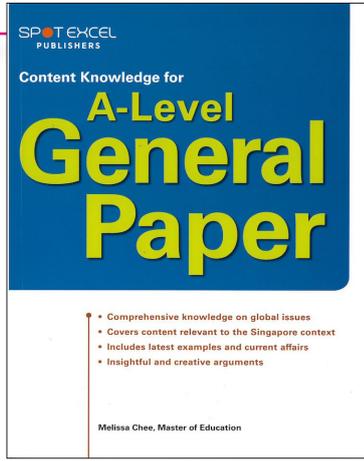
Men usually get longer prison sentences than women for the same crime. Men received, on average, 41% longer sentences than women for the same crimes. Women were twice as likely to not even be jailed when convicted. Men are also punished far more harshly than women, and women are likely to escape being punished at all.

Women seem to always be the victims of domestic violence. In actual fact, more than 40% of severe physical domestic violence victims are men and many of such cases go unreported. There is still a social stigma against domestic violence suffered by the male population. To add on to that, 99.3% of shelter spaces are for women.

In USA, domestic violence law is written in gender neutral terms, meaning that includes men. The irony is that it is that law that has shielded the rapist. Violence Against Women Act. Men are arrested 55% of the time rather than the women even if it is the female who has initiated the violence.

While women continue to fight for equality, it cannot be overlooked that the men gender inequality is not just exclusive to women as men can be potential victims of such discrimination, if not, even worse in some other cases. Equality cannot be obtained just by focusing one gender more or by social movements that are simply ignored or shunned aside by the majority of the population.

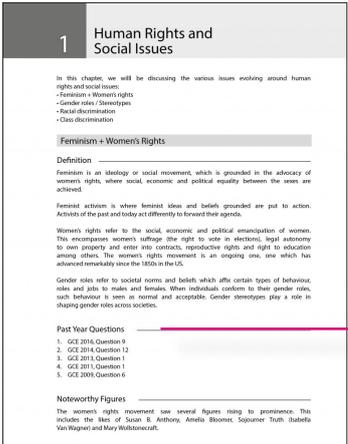
It is indeed still a work in progress and the human race, despite being a single race, has already spent such a long time obtaining equality in other areas such as race which is still in progress and even obtaining voting rights for women. We should have to expect an even longer time for the world to shift the needs on the status quo of gender equality issues.



**Content Knowledge  
for A-Level GP**  
ISBN: 9789811164323

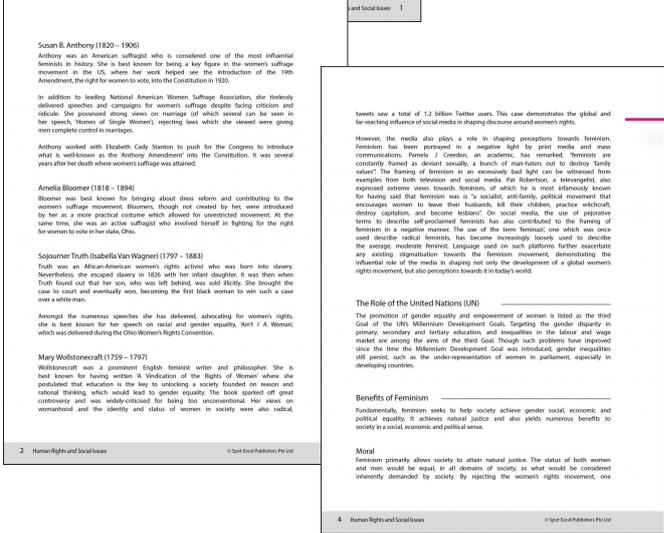
Students must carefully study the arguments and add their personal voices to ensure that at the end of the book, they have a competitive advantage in expressing creative, critical and mature responses under tight time conditions.

As per the syllabus demands, this book discusses a range of topics including, but not limited to, science and technology, the arts, global concerns and local interests. It aims to deliver alternative perspectives, inter-topic linkages and evaluation, along with plain content. This stimulates the student's ability to develop mature understanding of the environment in which we live in, to think about the issues that plague our world today, and helps to broaden their outlook while remaining mindful and grounded to our local experiences. Multiple arguments and conflicts are also provided as suggestions to guide students to evaluate issues according to their implications and significance on individuals and society as a whole.



### Past Year Questions

The appearance of the topic in past years' GCE A-Level examinations is listed.

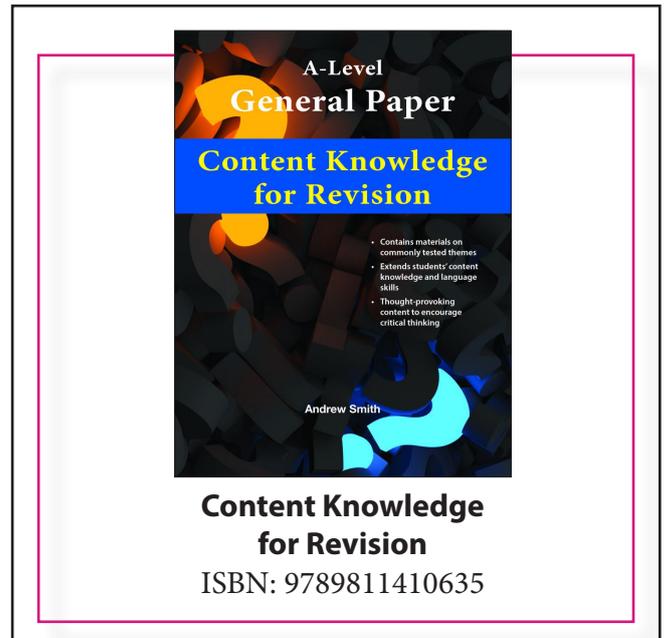
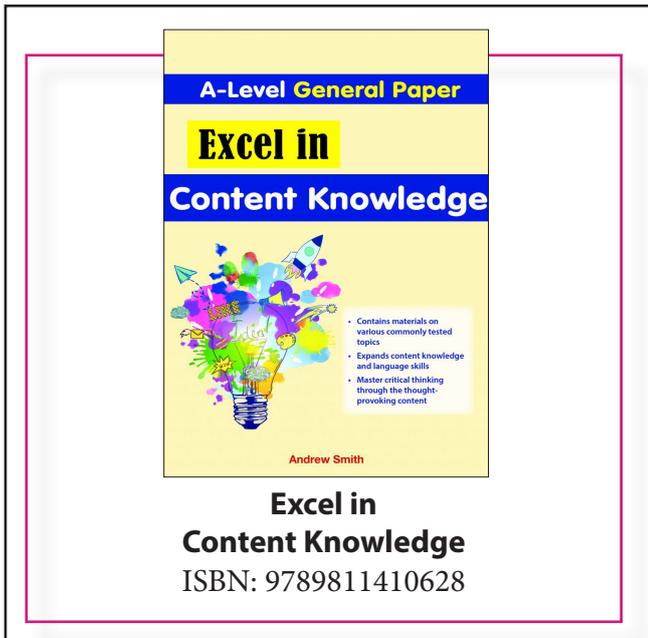


### Comprehensive Content

Information such as definition, noteworthy figures, roles and benefits are also included to broaden students' knowledge on the topics.

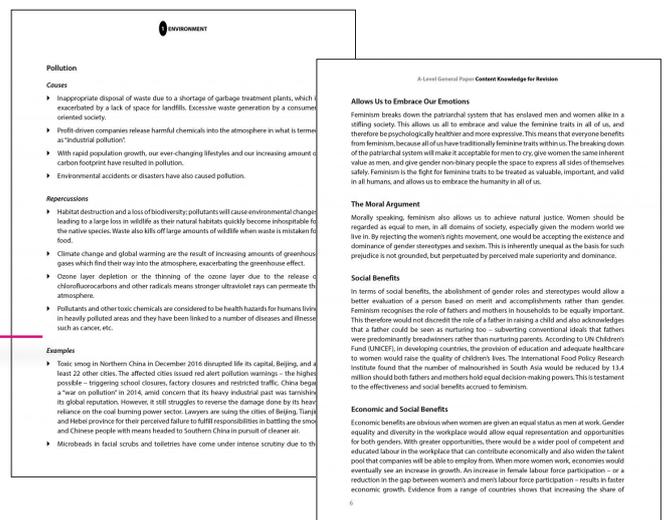
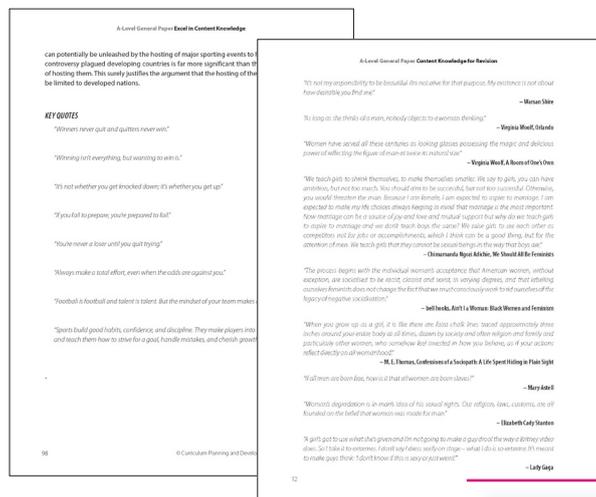
A-Level General Paper: Excel in Content Knowledge and A-Level General Paper: Content Knowledge for Revision are designed to provide students with a wealth of relevant knowledge. The books consist of a wide array of topics, covering all topics commonly tested at the A-levels. Each topic is specially crafted to enable students to gain a deeper understanding of each topic.

The books aim to prepare students for the A-Levels by providing content that is summarised without forgoing the details. The information is crafted into meaningful insights to allow students to effectively evaluate and argue their positions, giving them the confidence to do their General Paper examination.



## Extensive Content

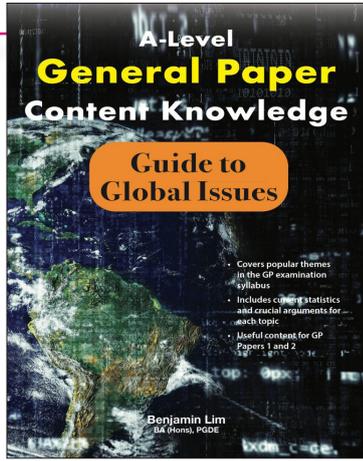
Insightful and thought-provoking content such as causes, repercussions, examples, arguments and benefits are covered for each topic.



## Key Quotes

Each unit ends with meaningful quotes relevant to the topic which students can adapt for their essays.





A-Level General Paper Content Knowledge – Guide to Global Issues is written to provide students with a broad overview of the plethora of themes, ideas and examples that are explored in the General Paper. Understanding these various themes and issues will help students have a better grasp of the complexity of the world today. Students must carefully study the arguments in this book and add in their personal voice to ensure that they are given a competitive advantage in their A-Level examinations.

**Guide to Global Issues**  
ISBN: 9789811410642

### CONTENTS

1	ARTS	1
2	CRISIS	9
3	ENVIRONMENT	19
4	HUMANITARIAN	33
5	LEADERSHIP	39
6	MEDIA	47
7	POLITICS	61
8	SOCIAL	83
9	SPORTS	101
10	TECHNOLOGY	107
11	TERRORISM	133
12	UNIQUELY SINGAPORE	141

## Range of Themes

Covers popular themes in the General Paper examination syllabus.

#### 1 - Arts

##### Great Leaders

- An Indian children's book, *Great Leaders*, that listed food dictator Adolf Hitler among history's amazing world leader was withdrawn by its publisher following widespread criticism.
- Pictured Hitler on its cover and also featured biographies of Barack Obama, Nelson Mandela and Gandhi.

##### Objective Documentary Award

- A new award by arts space Objectif, Documentary Award, will provide two Southeast Asian photographers with financial and professional support over six months.
- Encourage photographers to develop work that addresses social issues in their home country.

##### To Kill A Mockingbird

- A representation of Harper Lee's (the author of the classic novel, *To Kill A Mockingbird*) estate sued in 2018 claiming Oscar-winning writer Aaron Sorkin's script deviates too much from the beloved 1960 novel about race relations in the Depression-era US South.
- The producers of the Broadway adaptation sued the author's estate saying the premiere cannot go ahead as scheduled and the production may have to be suspended entirely unless a legal dispute is settled soon.

##### Fake Paintings

- An investigation into the collection at the Terno Museum, an art museum dedicated to the work of the painter Etienne Terno in Eke France, found 82 of its 140 paintings were fake.
- Else's mystery said the discovery was a "catastrophe".

##### Shubigi Rao

- Singaporean artist Shubigi Rao is among 15 artists from the region and Central Asia who have been nominated for the triennial Signature Art Prize.
- Nominate works range from sculptures to an interactive installation of drawings, videos and text.
- Her installation, titled *A Short Biography Of The Banished Book*, Vol II Written In The Margin (2014-2016), is part of a 10-year project on the destruction of books and libraries which began in 2014.
- Includes video testimonials from people involved in saving or destroying books.
- Fighters who tried to save the burning national library of Sarajevo during civil unrest in the 1990s.

#### 2 - Crisis

##### Cholera Outbreak

- Yemeni cholera outbreak is now the largest in history, having already surpassed one million confirmed cases, despite international assistance.
- In the last decade, African countries reported over three million suspected cholera cases to the World Health Organization and new cases are cropping up in 2018 in Africa's east-central and southern regions.

##### Cancer

- Within the next five years, there could be more than one million cancer deaths annually in Africa, a surge in mortality that would make cancer one of the continent's top killer.
- Africa receives only 5 percent of global funding for cancer prevention and control.
- On average, African countries have fewer than one trained pathologist for every one million people, meaning most diagnoses come locally for treatment.
- According to University of Chicago ecologist Chikarenko Okpara, a diagnosis of cancer in Africa is "nearly always fatal".

##### Gun Violence

- At least 17 people were shot dead at a school in Florida.
- A 19-year-old suspect, Nikolas Cruz, who had been expelled, was arrested. He posted on YouTube his desire to be a "professional school shooter". This was America's worst shooting since the Sandy Hook massacre in 2012. In response, Donald Trump issued an order to ban bump-stocks, devices that convert some weapons into fully automatic rifles.
- Della and other disarmed discounts for NFL members.
- Dick's Sporting Goods stopped selling assault rifles.
- Survivors of the mass shooting at Marjory Stoneman Douglas High School in Parkland said in June they will spend the summer registering voters across the country and advocating for gun reform. They travelled in two groups by bus to 20 states and every district of Florida.

##### Russia Building Up Arms

- In 2016, Putin said that Russia has launched the development and testing of state-of-the-art systems of strategic arms, such as the Sarmat heavy intercontinental ballistic missiles and the Kinzhal hypersonic complex.
- Russia has also created a small size super-powerful nuclear power plant that can be installed on a cruise missile, which will ensure an unlimited flight range and invulnerability to missiles and air defence systems. Russia has also developed an unmanned underwater vehicle capable of carrying nuclear warheads.

#### A-Level General Paper Content Knowledge - Guide to Global Issues

- The lower house of Malaysia's parliament passed a bill that would impose prison sentences and fines on those who spread "fake news".
- A Danish national is expected to be the first person to be charged under the new anti-fake news legislation after he allegedly made false claims about the police's response time to the shooting of Palestinian lecturer Fadi al-Batati on 21st April 2018.
- India government enacted new rules that would have rescinded the credentials of journalists found to have published falsehoods.

##### Fake News - Whatsapp

- The authorities in north-eastern India have cut Internet access after crazed mobs beat three people to death in the latest cases of lynching sparked by false rumours spread on smartphone messaging service Whatsapp.
- Sparked by fake rumours of gangs of child kidnappers.

##### Fake News: Statistics

- Reuters Institute for the Study of Journalism's Digital News Report 2017 revealed, 84 percent news consumers say that established media organisations (eg The New York Times) accurately differentiate fact from fiction. For social media, this share is only 24 percent.
- This means that 60 percent of news consumers regard the legacy media as being careless with facts.
- The same report highlighted that 29 percent of respondents (70,000 Internet users in 36 countries) said that they were avoiding news altogether because the producers' preference for negative news put them in a bad mood and they view the reporting as politically slanted and therefore untrustworthy.

##### Tech-Journalism

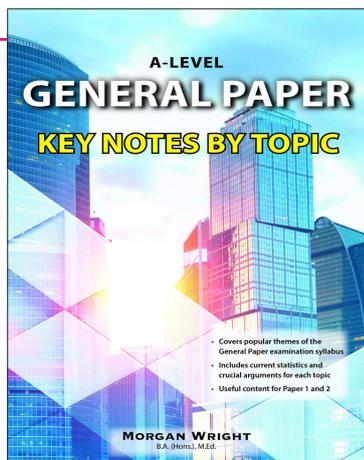
- Preference for traditional journalism – Huffington Post scaled back its platform for unpaid bloggers and Facebook decided to ask users to rank news sources by trustworthiness.
- 2018 Edelman Trust Barometer shows rising confidence in traditional media.
  - In the 28 countries where the survey was conducted, 59 percent now trust journalists, up from 54 percent a year ago.
  - Trust in social media platforms has declined from 53 percent to 51 percent.

## Statistics

Current statistics are included to support arguments.



## Key Notes by Topic



ISBN: 9789811176203

A-Level General Paper Key Notes by Topic is written for students preparing for the General Paper at the A-Levels. This book is a collection of up-to-date examples and crucial arguments needed to write a good General Paper essay. It covers a range of popular themes in the General Paper examination syllabus. This book will not only be of immense help for the essay paper but for the comprehension paper as well, especially the application question.

CONTENTS	
<p><b>TOPIC 1 THE ENVIRONMENT</b></p> <ol style="list-style-type: none"> <li>China's national cap on coal usage</li> <li>Paris climate accords by the United Nations Framework Convention on Climate Change (UNFCCC)</li> <li>Water pollution effects</li> <li>E-waste in Singapore</li> <li>Plastic consumption</li> <li>Big corporations are culprits</li> <li>El Niño</li> <li>Health effects of diesel cost European taxpayers</li> <li>Population growth</li> <li>Sustainable BluePrint 2015</li> <li>Singapore's EPA</li> <li>Urban spaces</li> <li>Too much effort?</li> <li>Ozone layer</li> <li>Pollution in Delhi</li> <li>Sunraya's Initiative</li> <li>Children under 5 in Yemen</li> <li>Male</li> <li>Is the US doing enough?</li> <li>Kyoto Protocol</li> <li>Extinction of animals</li> <li>Endangered animals</li> <li>Solar panel bills</li> <li>The world must triple effort</li> <li>Singapore's ranking</li> <li>Farming practices</li> </ol>	<p><b>TOPIC 2 EDUCATION</b></p> <ol style="list-style-type: none"> <li>Integrated Programme (IG)</li> <li>New Year</li> <li>Giving priority Primary 1 admissions</li> <li>Applied learning</li> <li>Aims of education</li> <li>Compulsory Education Act</li> <li>Global literacy rates</li> <li>Spending on education</li> <li>Education being too stressful</li> <li>Best education system</li> <li>Education in Yemen</li> <li>Pros and cons of an examination system</li> <li>Homeschooling</li> <li>Reasons to carry out character education</li> <li>Benefits of reading</li> <li>Schools being a place for peer pressure</li> <li>Life-long learning</li> </ol> <p><b>TOPIC 3 SCIENCE AND TECHNOLOGY</b></p> <ol style="list-style-type: none"> <li>How technology helps with education</li> <li>Big data and fashion</li> <li>China's advanced technology in an attempt</li> <li>Technology could redefine doctor-patient</li> <li>Improved quality of life</li> <li>Advancement may not always be good</li> <li>Can technology help poverty?</li> <li>Are corporations out to make profits with mining?</li> <li>Bioterrorism</li> <li>Cybersecurity</li> <li>2013 Singapore cyber attack</li> <li>Doing enough for cybersecurity?</li> <li>Importance of updating cybersecurity</li> <li>Pros and cons of space exploration</li> </ol>
<p><b>TOPIC 4 THE ARTS</b></p> <ol style="list-style-type: none"> <li>Korea's 'Hallyu' wave</li> <li>Banky</li> <li>Kampung Pelangi</li> <li>Art therapy in Singapore</li> <li>Art stage</li> <li>Using interactive theatre to develop empathy</li> <li>Literature</li> <li>Music</li> <li>BP's sponsorship of Tate Britain Museum</li> <li>Singapore's efforts</li> <li>To make a statement</li> <li>Advantages and disadvantages of banking in Singapore</li> <li>Foster identity and togetherness</li> <li>Love, Simon</li> <li>Singapore's spending on the Arts</li> </ol> <p><b>TOPIC 5 THE MEDIA</b></p> <ol style="list-style-type: none"> <li>Selling products</li> <li>The price to pay for an opinion</li> <li>Social media usage in Singapore</li> <li>Benefits of watching television and movies</li> <li>Benefits of music</li> <li>Political campaigns</li> <li>To raise awareness</li> <li>Mass media and the law</li> <li>Connectivity</li> </ol> <p><b>TOPIC 6 POLITICS AND PREJUDICE</b></p> <ol style="list-style-type: none"> <li>Florida's voting system</li> <li>Two Saudi sisters</li> <li>Ballet shoes</li> <li>US sanctions on Iran</li> <li>Israel's advertisement</li> <li>Merck</li> <li>System chef goes back</li> <li>Wildfires in the US</li> </ol>	<p><b>TOPIC 7 FAMILY, THE OLD AND YOUTH</b></p> <ol style="list-style-type: none"> <li>Singaporeans' views on family</li> <li>The ageing population in Singapore</li> <li>Pioneer Generation and Merdeka Package</li> <li>Love of a parent</li> <li>Justin Ng</li> <li>Spending cost rising</li> <li>Divorce rates</li> <li>Youth's consumerist culture</li> <li>Large families in poor countries</li> <li>Youth in Singapore have higher affluence</li> <li>Anxiety and depression</li> <li>Umbrella movement</li> <li>Singapore's ageing population</li> </ol> <p><b>TOPIC 8 SPORTS, HEALTH AND LEISURE</b></p> <ol style="list-style-type: none"> <li>Fighting against doping</li> <li>Spending in Singapore</li> <li>Heat waves</li> <li>A drunken doctor performs Caesarean</li> <li>International Breast Cancer Paddler's Commission Dragonboat Festival</li> <li>Paralympics</li> <li>People engaging in dangerous sports</li> <li>Dangers of extreme sports</li> <li>Cristiano Ronaldo</li> <li>Xeno-transplant</li> </ol>

### Easy Revision

Information is arranged in easy-to-read points and each topic comes with a mind map for more efficient revision.

### Comprehensive Topics

Extensive range of topics covered to expand students' content knowledge.

**1 - The Environment**

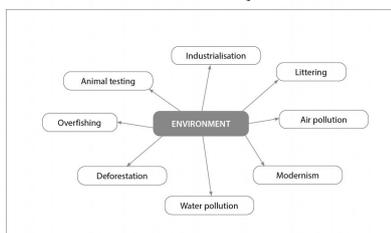
**4. E-WASTE IN SINGAPORE**

- As of February 2018, NEA reported that 60000 tonnes of e-waste were produced every year.
- A study by United Nations University estimates that about 109000 tonnes of e-waste were generated in Singapore in 2014, making Singapore the largest generator of e-waste in the region. This amounts to 19.5 kilograms of e-waste per person.
- A 2017 global report estimated that the world generated 44.7 million tonnes of e-waste in 2016, which is equal to more than 8 Great Pyramids of Giza.
- Washing machines made up 32% of this waste and refrigerators made up 22%. When donating these household appliances, freon gas is green out when taking the compressor out. Freon gas is a toxic gas that can cause asthma, skin allergies and mental disorders. This causes only 6% of all e-waste to be actually recycled.
- In Singapore, VEMAC is the only company that safely extracts gases from appliances. However, they only deal with commercial purposes, since it is expensive to properly dispose of the gas. Hence, they choose to deal with commercial businesses to make sufficient profits since household appliances would not produce enough gas to make any form of profits.
- Many may not be aware of such a thing as e-waste, however, it is increasingly relevant.
- There is also an increasing trend of consumerism and people tend to throw things away if it is functioning.
- This can increase the e-waste in countries especially since, in today's world, everyone tries to stay up-to-date and does not want to be left behind in terms of being trendy.
- Reduce the amount of e-waste is left to increase.
- With only one company specialising in the safe removal of gases, and only for corporate appliances, this poses a big problem since a lot of waste is also made up from household appliances and one company will be unable to cover all the e-waste and the parts that could actually be recycled would be unable to be recycled due to the lack of companies helping in demanding electronic devices.

**5. PLASTIC CONSUMPTION**

- As of July 1, 2018, Queensland and Western Australia will ban single-use, lightweight plastic bags from major retailers, with South Australia, Victoria and Tasmania set to follow leaving only New South Wales without a proposed ban.
- However, thicker and more durable plastic will be available for sale in most supermarkets.
- If consumers continue to use heavy-duty plastic bags of the same size as lightweight bags, it may be worse. Heavy-duty plastic bags need to be reused at least 4 times to make up for the increase in greenhouse gas emissions caused by their production when compared to a single-use plastic bag.

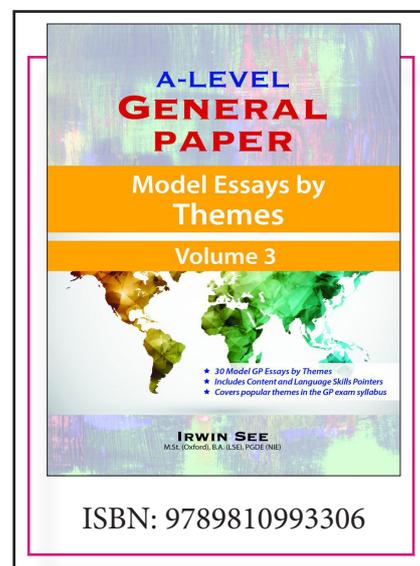
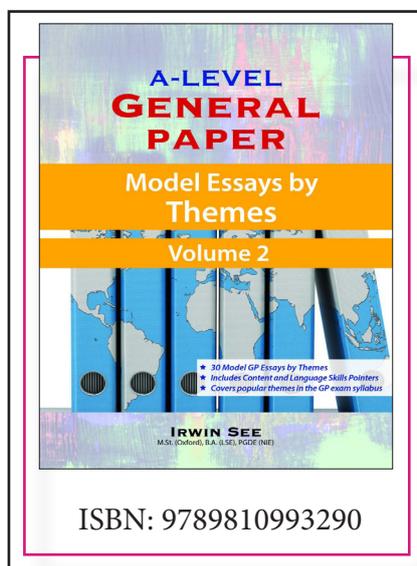
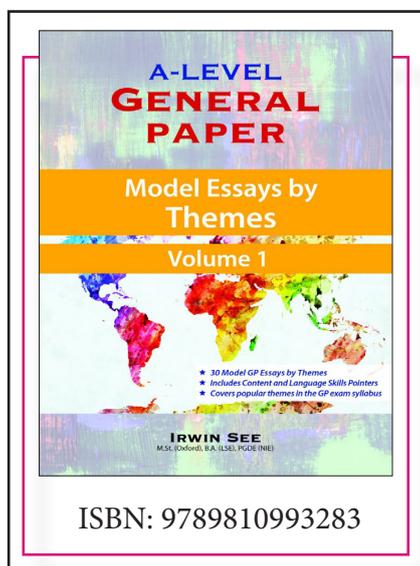
### Mind map



## Model Essays

Many students often feel lost as to how to analyse and learn from model essays effectively. This series of Model Essays by Themes strives to be different from other essays books: they aim to help students not merely to increase their exposure and understanding of various General Paper issues and themes, but also to learn how to improve their language skills through examining and analysing various essays in the books. At the end of each essay, there is a section titled 'How to Make Use of This Essay' where students can take time to extract useful content, writing techniques and language skills from the essay they have just read.

The exercises train students to build their own repository of useful GP resources from other future essays they may come across. In addition, due to the wide-ranging perspectives on various issues of the day, the essays in this book deliberately take on different (and sometimes opposing) stances on the same issue. This is so that students can be exposed to a diversity of viewpoints which would hopefully help them to think deeper and reflect on their own positions regarding different topics and themes in GP.

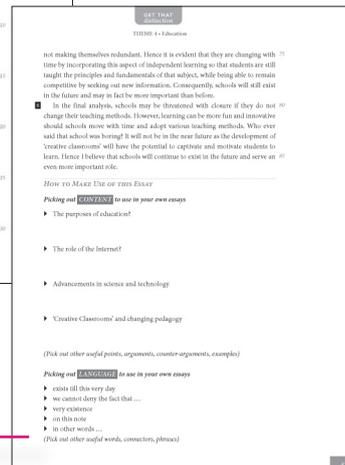


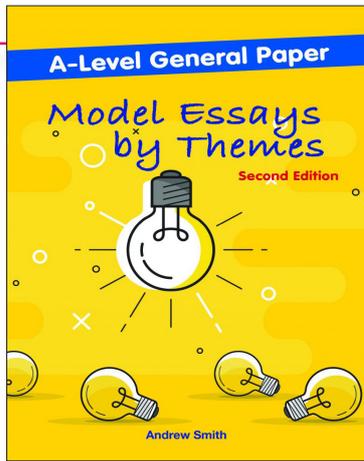
### How to Make Use of Each Essay

Students will be guided in preparing for the two key aspects that are assessed for General Paper Paper 1 (Essay).

**Content:** Picking out points, arguments, counter-arguments, examples, statistics, etc.

**Language:** Picking out useful words, phrases, connectors, transitional phrases, etc.



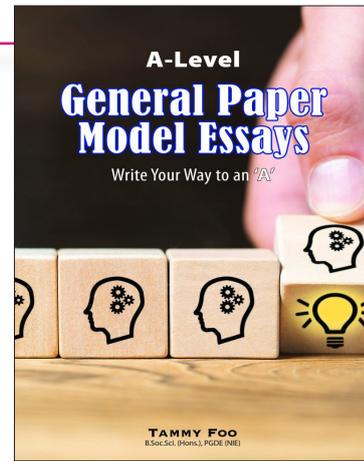


ISBN: 9789811440588

This book is a collection of model essays categorised into commonly tested themes. Students will be presented with a wide array of question types that will equip them with the necessary skills to score for General Paper essays at the Advanced Level.

This book aims to deepen students' skills in evaluation of arguments and opinions, promote extensive and independent reading, develop maturity of thought and encourage a wide range of critical reading and thinking skills.

In preparation for the A-Level examinations, this book will provide students with a broad range of diverse key issues including current affairs, science and technology, social issues and many more.



ISBN: 9789811417559

This book is written based on the latest MOE syllabus for GCE A-Level General Paper. It caters to students taking their examinations from 2019 onwards.

This book has a wide variety of questions, covering key issues on a range of topics. For each essay, examples and analysis are given to equip students with the ability to expand on their thesis statements and points. Students will be able to observe the style of writing of the essays and examples given and use them to improve their essay-writing.

In a nutshell, this book aims to help students achieve success and score well in the GCE A-Level General Paper examination through improving their language competency and sound reasoning.

## Comprehensive Topics

Model essays in these books cover an extensive range of topics to prepare students for the various topics they may encounter in the national exams.

### 1- International Affairs, Rules and Violence

#### ESSAY 1

The only way to live sensibly in this world is without rules.  
How far do you agree?

We are often told that a life of freedom without rules is a desirable life. Pushing beyond the boundaries of our understanding and existence in the sciences and the arts, the search of ideas is the enemy of growth. However, having complete freedom to follow on the freedom of others, is a necessity, perhaps one rule is needed for us to family of men. Seen in this light, living without rules would mean people would still give their own interest to live without restrictions as rules are still needed to efficient way for society to progress.

It would appear that living without rules is the only freedom and independence to choose, explore and to development comes from various innovations and growth, especially in the scientific and technology world. However, the freedom from natural punishment of the scientific Renaissance into a scientific revolution against the majority of scientific concepts that were that propelled human knowledge of the world by introduction of modern science. Similarly, in the of established norms in the many fields of the arts, it with to modern dance companies, and even in the such as rock and roll, hip hop and electronic, direct systems of democracy can be traced back to many where freedom and equal treatment systems of government by the majority to make sure that elected for this light, living without rules is necessary for social well as breakthrough in human development. Will harness to push to greater heights. Rules can freedom to pursue happiness and justice.

In the context of our rapidly changing world, rules to be able to live by adding to their own needs and ethics, these rules are a representation of our societal values. However, given the rapid the effects of globalisation, such as the nature of values and morals. It can be seen that as they may have to amend and accommodate such.

### 4- Arts, Literature and the Society

#### ESSAY 30

The pen is mightier than the sword.  
Do you agree?

"Before all else, he must write" wrote the brilliant Florentine politician/philosopher Niccolò Machiavelli, a man famed for his unflinching pragmatism and grasp of the darker truths of life. While a master of the written word, he also understood the brutal might of physical weapons. The irony of Machiavelli's influential assertion is that it proved the power of the written word over while arguing for the supreme might of military capability. For the purpose of this essay, I shall interpret the 'pen' to refer to the written word and the 'sword' to denote military power - in accordance with what I consider to be the spirit of the original quote: 'the pen is mightier than the sword'. While military armaments give more immediate and visible results, the reach of technology, however the more powerful than any force of arms.

Scientists will argue that military muscle - whether in the form of swords, guns or fighter planes - can allow any authoritarian or totalitarian leader to dominate the masses and intimidate them into submission. Those who speak the language of violence may wield the power of the pen (or fire) more effectively. The bourgeoisie, however, in comparison, and the seemingly 'soft' and intangible words of their pen can be used with just as much or a bullet. A case in point is the burning of books by Mao Zedong during the Cultural Revolution. The pen seemed to be a dead end, but the language of the sword, and indeed many eminent writers were ruthlessly dispatched.

However, we should remember that the pen often has profound influence over those who wield the sword. Mao himself, we must remember, was profoundly influenced by the writings of an intellectual - Karl Marx, the writer of the Communist Manifesto. It was a book which, for better or worse, took the world by storm and sparked revolutions from West to East. North to South - including the Communist Revolution in China itself. The fact is, given the world we live in, we would also recall that Mao used the power of the written word to control the people. In the form of communist literature which was used to indoctrinate young and old in the political ideology he espoused. The anti-war literature of 1950s America also fomented fear and demoralisation against America's involvement in the Vietnam War, and drove the United States (US) government - who were ostensibly in control of the military - to withdraw troops from Vietnam in 1975. In a democracy, the will of those who control the pen often tends to be the will of the people, who are often swayed by the written word. Indeed, democracy itself was spread by the written word of historic writers such as Thomas Jefferson. When it's said and done, the sword or the gun cannot kill anyone by itself. They weapon require human agency to become an instrument of death, and it is the pen which most influence human thought and behaviour as is the most elegant way to convey ideas.

Proponents of the primacy of the sword will contend that all the words and books in the world count for nothing if one's country is unable to defend itself against military invasion. Indeed, all the fine writers and books in Robert Kennedy's 'Inherit the Wind' in the face of General 'Wild Bill' Hatcher's military might during World War Two, nor did Malaysia literature seem to count for much when the country confronted the

### A-Level

## General Paper Model Essays

Write Your Way to an 'A'

TAMMY FOO  
B.Soc.Sc. (Hons.), PGDE (NIE)

### A-Level General Paper Model Essays

#### ESSAY 2

What extent are migrants a threat to today's world?

One of the worst things a migrant can hear is 'Go home'. Indeed long way from his hometown, who has made a big sacrifice to be of his comfort zone to work in a foreign country to earn their bread. However, in today's globalised and competitive world, many see it as necessary to migrate to other countries to find better opportunities. However, not necessarily the case and migrants do actually bring significant benefits to the country which they migrate to. Personally, I believe that about benefits for the country, they still have the potential to its and joining society changes to the society. Hence, it is justifiable that migrants are a threat to today's world.

Those who are very welcoming of migrants are those who see it as usually migrant workers, bring. Migrant workers often take up jobs in the construction job sector. They offer a cheap source of labour to work in the customer service sector while migrant workers in the construction job sector. They offer a cheap source of labour to work in the customer service sector while migrant workers in the construction job sector. They offer a cheap source of labour to work in the customer service sector while migrant workers in the construction job sector.

However, upon deeper analysis, it is reasonable to believe that migrants do not pose a threat to their host country as they are often seen to be a source of economic growth. While it is perfectly normal behaviour for the migrant to back in their local country, this does not mean the host country of the long number of migrant migrant workers has been lowering in need causes transport and travelling to be much more convenient. This, however, Indonesians and Malaysians move to Singapore to attend the Singapore education only to return to their respective countries. It is also worth noting that migrant workers benefit more from the host country than what the host country benefits from them and thus they are considered more as a threat to the country.

Furthermore, migrants can cause more prominent and obvious harm to a country, thus posing a threat. Many migrants do not see the importance of adapting to the host country's culture and behaviour.

### A-Level General Paper Model Essays

#### ESSAY 2

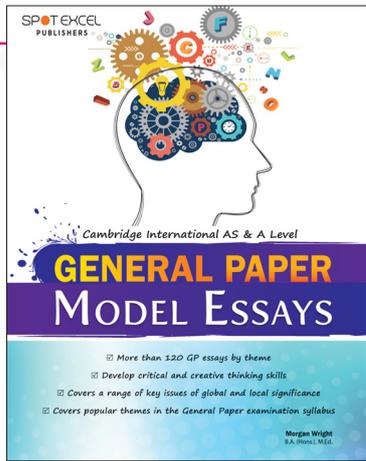
"Fashion is serious business." Discuss.

When one thinks about high heels today, they are instantly linked to impracticality, with the stereotype of pretty women strutting about the streets, shopping and shopping. They give a general feel of superficiality and the constant need to upkeep desirable appearances associated with frivolity. Yet, many of us are unaware that high heels, fashion itself today, served as a coded message for women's liberation in earlier years. In today's modern world, especially in affluent cities like London and Paris, there has been an increase in the number of fashionistas in the form of models. Hence, it is safe to say that fashion is undeniably associated with hefty price tags and branded models. However, the fact that fashion has been an integral part of our lives for years goes to show that it is indeed of value to mankind and that beyond the superficial appearance, it has shaped society and hence I believe that fashion is indeed a serious business - one worthy of our attention and praise.

Fashion is an important platform through which one expresses one's individuality. People from all over the world have been using fashion to make a statement. Lady Gaga, famous for her her fashion style has been embedded into her identity, has done all possible things of outfits including a meat dress and a fish-potomac dress. Through her wide variety of choice of outfits, she makes bold fashion statements that express her unique individuality. The rise of streetwear has also been especially prominent in recent years, capitalising on the urban style of dressing, rooted down to the ability of the street, and hence originating from the unapproachable perfection of catwalks. Individuals explore different and unique styles best suited to their preferences. Wearing bright prints together convey a bold statement of the self and loaded with reflecting and gives the individual a sense of personalhood.

On the other hand, individuals who are unable to afford high end fashion are picking up second hand items and donated clothing that differentiates themselves from the norm. In exchange for the comfort they obtain through these clothes, in light of the aforementioned, it can be seen that fashion has indeed played a significant role in allowing oneself to express one's individuality in many different ways and hence can be concluded that fashion is serious business.

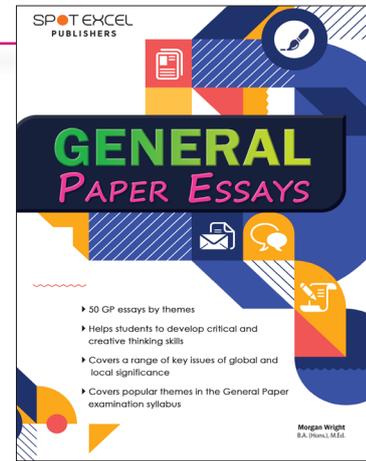
Another reason why fashion is serious business is because of how it can be used as a political tool and an indirect way for voting one's opinion and stands on certain social issues. With effect of the annual Pink Dot event to support the LGBT in the society, supporters of the campaign would don pink outfits on the day of the event to show their support for an inclusive society - one that promotes all types of love. Through this, individuals show that they are of the view that equal rights should be given to the involved individuals, hence appearing to pink outfits is a means of expressing their views. In the political arena, while supporters who appeared in white polo shirts and khaki of Chatterboxes, expressed their belief that the whites are superior to people of other races and therefore should be dominant over them. As such, it can be seen that fashion is used as a political tool for individuals to express their views on other political issues. Therefore, fashion is serious business as it can be used to communicate their support each other and gives people the ability to state their political stance.



ISBN: 9789811496219

This book aims to help students develop their ability to think critically and deliver their arguments and opinions in a clear and concise manner.

The model essays in this book cover a wide variety of topics and question types. Essays use both global and local examples that will help students develop a broad understanding on a range of subject matter. By reading these model essays, students can learn how to express understanding as well as develop critical and creative thinking through informed personal responses.



ISBN: 9789811805714

General Paper Essays contains 50 essays, covering topics of both global and local significance. The book is designed to help students develop critical thinking and creative thinking skills, and is structured according to the popular themes tested in the General Paper syllabus.

Students will learn how to write more effective and nuanced essays, while developing a deeper understanding of issues concerning them.

Contents	
Animals	1
Arts	4
Education	13
Environment	17
Media	23
Gender	38
Globalisation	
Government	
Poverty	
Prejudice and Discrimination	
Science and Technology	
Sports	
Young People	
Miscellaneous	

**CONTENTS**

**Governance**

- "True democracy is not just about having the right to vote." Do you agree?
- "With increasing emphasis on rights, the state should not interfere in the private lives of its citizens." Discuss.
- "The key criterion for good governance is how well the economy is doing in this fair assessment?"
- "The individual today is powerless in protecting his right to privacy. How far would you agree with this statement?"
- Is democracy, as is often assumed, the best form of government?
- Is your country doing enough to ensure that nobody gets left behind?

**International Issues**

- Can national inclusion programmes ever be justified?
- How effective have global efforts been in resolving international conflict?
- "Rising commodity prices are posing a grave threat to world peace."
- "Terrorism are nothing more than criminals." Discuss.
- "Make poverty history." Is this a realistic aim?
- Assess the view that international organisations are mostly ineffective.
- "The world is shrinking fast but not necessarily coming together." Discuss.

**Broad Topics**

- How far do you agree that having children is just another lifestyle choice?
- To what extent is the pursuit of perfection a desirable goal?
- How far do you agree that the world has to be broader?
- To what extent do you agree that the world is becoming more diverse?
- "An unhappy man is a man who has no one to love."

**Essay 1**

**"True democracy is not just about having the right to vote." Do you agree?**

Democracy, as its Latin root 'demos' suggests, literally means government based on people. Undoubtedly, voting rights, the indispensable element underpinning the political system are crucial for a successful democracy. Thus, it is tempting to conclude that the right to vote is a sufficient condition for democratic governance. In practice, however, a true democracy encompasses many other aspects as its solid foundation, among which are the rule of law, right of inquiry and free speech and the right to hold public office. Absence of any of these components would very likely set a political system into a virtual authoritarian regime covered by a facade of democratic righteousness. In this light, without the necessary supplements, voting alone are hardly sufficient for true democracy.

One has no knowledge that in the first place, voting is an important guarantee for democracy to function. Ultimately, the opportunity for each citizen to voice his concerns and exercise his decisions must materialise as concrete vote. It is through voting that the system of checks and balances are enabled and all political offices are properly assigned. In particular, a legally binding public referendum receives more of the sensitive national affairs through the citizens' direct expression, enhancing the accountability of the major decisions. The upcoming Scottish referendum perfectly attests to the crucial role voting has assumed in a functioning democratic body. The national identity of the Scottish population may be redrafted based on the results of their collective vote and the referendum provides a peaceful channel for the parties of conflicting interests to settle the disputes. Given that the decision is only delivered by an unbiased public vote, the impartiality of the process can thus be guaranteed. Similarly in Switzerland, citizens can directly participate in the legislation through plebiscites. Those who gather enough support within a mandated days of First Declaration Motion will be able to influence Parliament procedures through voting.

As repeatedly testified, voting rights are a peaceful and highly accountable channel through which the public can directly govern themselves. Any attempt at reducing the right to vote would simply render politics a feudalistic autocratic system in which the vested interests dominate.

**Governance**

One of the purposes of democracy is to ensure that the state is run in the best interests of the people. The most blatant contradiction to such a popular belief, each adult citizen above a certain age has been voting ever since the advent of the universal suffrage. A more telling example is North Korea do vote, Syrians under Assad, however, has not delivered its promised democratic election.

The rule of law would be among the first and most important of these elements to be introduced. An independent judiciary system functions as a key supervising power over the execution of national affairs, including the voting process. It must not go unnoticed that in the above-mentioned cases, the national and local courts are not only ineffective because of a clearly defined and well-entrenched legal standard is established in the first place. Without a legal backbone consisting of public scrutiny and supervision, mass voting inevitably results in a situation where the majority's interests are sacrificed to the whims of a few. In the Philippines and Indonesia, where an ill-defined legal framework and morally bankrupt judiciary trench manipulate the rule of law. The Philippines' election body has controlled the judiciary benches for nearly half a century, bribing judges and exploiting them to their political favour. Correspondingly, the Philippines' system is notorious for its blatant grandstanding practices and its certain extreme cases, blatant cheating by directly overwriting public votes in poll boxes. These distortions of democratic justice constantly remind us of the previous isolation of voting from the rule of law, the premise that guarantees successful voting in the first place.

A corresponding factor that might endanger democracy is the lack of free speech and inquiry. As democracy, after all, is about granting every citizen the opportunity to express their will and influence on government in an enlightened manner, free expression is indispensable. In the most successful democratic bodies, free speech is upheld before any meaningful voting can take place at all. The United States Senate specifically declares that their bicameral legislation would pass only after undergoing "strenuous public debate and expression on any given subject." Likewise, efforts at silencing dissent, as President Obama commented, would be especially exploited to compromise democracy. In contrast, the Chinese democratic system, in which all dissent concerning political affairs is overtly suppressed, fails to fulfil its purported mission of "democratic exercise shared among all, as stipulated in the Constitution." It is an environment where entire media industry and a patriotic cause, the population is blindfolded towards the subtle erosion of their freedoms. Thus, when a certain authority instructs a community to vote for a particular figure whose public image has been lavishly inflated and beautified, it is only natural that the public would obey and follow. The right to vote is useless when the freedom of speech is stifled and people's eyes blindfolded.

Another prerequisite for democracy is the right to political office. A distinction has to be made that in this case the emphasis is on the political office of regional level, drawing specific reference to the system of "one person one vote." This is particularly noticeable in India whose democracy treats the assignment of public office in such a way that regional governors are all appointed by a central body with majority vote. It should be noted that at a regional level, certain ethnic groups have special religious and racial concerns that should be represented by their own voice. A region with the majority being descendants of the minority is power deprived by the balance of power.

In conclusion, democracy cannot possibly function without the right to vote, but the right to vote itself is in turn guaranteed and supplemented by other important factors such as the rule of law, the right to free speech and inquiry and the right to public office for minority groups on a regional level. These founding pillars buttress successfully democratic governance. As the Chinese proverb goes, "no pillar can support a roof." The right to vote alone is far from the true concept of democracy.

## Comprehensive Topics

Model essays in these books cover an extensive range of topics on popular themes in the General Paper examination syllabus.

**Animals**

**Is it possible to balance the protection of animal rights with the needs of your society?**

In Singapore, animals play a myriad of roles in various aspects. On one end of the spectrum, they are loved and cherished as pets, as is the case in almost all societies across the globe. On the opposite end, animals are slaughtered for food or used as test subjects in laboratories, not to mention also put on display for the viewing pleasure of an endless stream of tourists who flock to the shores of this island annually. With this ambivalence in the way different animals are treated, there is a need to question if animal rights can be protected without unduly restricting the latter uses of animals. In an intricate balance that takes into account the specific needs of this society, within Singapore, my firm belief is that it is still largely possible to balance societal needs with the rights of animals to be treated humanely through industry as well as legal means.

It is not always possible to balance the needs of Singaporeans with animals' rights, where food is concerned. Known as a food paradise, Singapore has a plethora of food and this is complemented by Singaporeans' love for food. That is that a large majority of Singaporeans are non-vegetarians means it is inevitable that our society will consume and use animals in some of our favourite dishes such as chicken rice and nasi lemak. Animals are also used in various ritual sacrifices such as the sacrificing of lambs and goats during Hari Raya Haji to feed the poor. However, we can still protect the rights of endangered animals by increasing public awareness of them to ensure that those animals are not consumed. Initiatives started by Shark Savers have led to an increasing number of people pledging to not eat shark's fins, including celebrities such as Mediacorp actress Zoe Tay. Several major hotel chains such as the Peninsula and Shangri-La have also stopped serving shark's fins. All these initiatives are in line with Singapore's desire to shake off an outdated culture tradition that is fast becoming socially unacceptable among many young educated Singaporeans, who have been made aware of the plight of such endangered animals through media advertising.

In the medical sector, there have been efforts to protect animals from unnecessary suffering. However, animal experimentation is still essential to ensure medical discoveries are safe for human use. It is therefore not possible to balance animal rights, particularly their right to live, with the needs of the society within the medical sector. With the biomedical

**Arts**

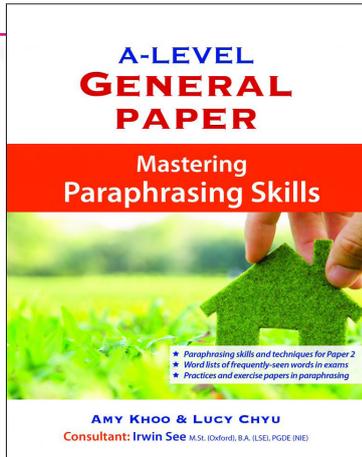
**Should there be complete freedom in the arts?**

Having complete freedom in the arts would allow for the liberalisation in the arts, thus enabling people in the arts to have a free hand in creating and performing their pieces of work. Moreover, any form of restriction in the arts would appear to be going against the very spirit of the arts, which is to allow for creative expression. Ideally, having no restrictions can bring about many benefits, as quoted from renowned artist Pablo Picasso, "Arts is the lie that enables us to realise the truth." This quote accurately paints the value of the arts as an unstrained and uncontrolled platform that serves to amplify the flaws and gaps in our society. That said, there should not be complete freedom in the arts as there is a need for artists to be mindful of any prevailing moral sensibilities for the sake of social stability.

Indeed, having no restrictions in the arts would allow for more opportunities for art to thrive. With complete freedom, anyone can create and perform anything they wish. This can give rise to new and diverse art forms, allowing space for some art forms to flourish and enabling creativity to thrive. More practitioners will also be able to come on board and the arts sector would also grow from being able to benefit from funding from the government or private organisations. In the 1960s, in response to the growing hippie subculture, the Singapore government implemented a policy that forbade any male to sport long hair. This restriction resulted in some performers like Lee Zeppeo having to cancel their gigs in Singapore because they refused to accommodate to this policy. In 1984, Singapore new age musician Kitaro was denied entry into Singapore due to his hair and thus cancelled a sold out show. However, since the restrictions have been relaxed, singers like Robert Plant held his concert in 2013 and this has enabled Singaporeans to have more opportunities to view art performances. Thus, it is evident that with complete freedom, artists would have more opportunities to perform and the arts scene can flourish.

Additionally, with complete freedom, the arts would have the power to trigger positive changes. The arts have the potential to generate awareness about social issues and play a vital role in surfacing important or even taboo issues, which might empower people to think and even act on them. With restrictions imposed on artists, the arts may not be able to trigger any changes in society. Artists everywhere, and in all periods, have taken a role in standing up for human rights and human dignity through their explorations of the human condition, particularly in times of unrest, oppression and chaos. It is no wonder that the liberating and unbounded potential to speak the truth is feared by those who remain invested in the suppression of the human spirit. Throughout history, works of art have been altered, silenced and even erased due to unacceptable content, whether the motivations for censorship were religious, social or political. Hence, allowing the audience to see the works for themselves would empower the individuals to reflect and prompt them to take

# Mastering Paraphrasing Skills



ISBN: 9789811138904

Paraphrasing is a key skill for the General Paper as it allows students to express the same idea using a variety of different words and expressions. The Comprehension Paper (Paper 2) in the examination contains many questions that require students to be able to paraphrase accurately and concisely. Possessing a wide range of synonyms will also help students improve their language marks for the Essay Paper (Paper 1) as they are able to use different sentence forms to convey various ideas. This useful guide also includes word lists and paraphrasing practice questions (with answers) to help students improve their paraphrasing and writing skills.

*Contents*

1	INTRODUCTION	1
2	WORD-FOR-WORD VS. SENSE-FOR-SENSE	3
3	SKILL 1 - CONTEXTUAL MEANING	9
4	SKILL 2 - QUANTIFIERS AND QUALIFIERS	14
5	SKILL 3 - LITERARY DEVICES: SIMILES AND METAPHORS	19
6	SKILL 4 - CONNOTATION AND DENOTATION	25
7	SKILL 5 - DEGREE AND INTENSITY	31
8	ADDITIONAL TECHNIQUES FOR THE SUMMARY QUESTION IN PAPER 2	35
9	USING PARAPHRASING SKILLS TO ENHANCE YOUR WRITING	46
10	EXERCISE PAPERS	54
11	WORD LISTS	70
	SUGGESTED ANSWERS	117

## Key Skills and Techniques

This book focuses on five key paraphrasing skills, as well as other important paraphrasing techniques needed.

## Tips and Examples

Tips and examples teach students how to arrive at the correct answers.

11.8.8 - Additional Techniques for the Summary Question in Paper 2

**Tips for paraphrasing**

**A. Varying the sentence structure where possible**

Normally, examiners give a provisional language mark (a total of 15 marks) based on the quality of the summary answer and give the final mark after considering the language in the Application Question (AQ2). Thus it is crucial to fully showcase your language proficiency in your summary answer so as to ensure that your language mark is in the high range. A good way to do so is to vary your sentence structure.

You can do this by changing the word form.

Original text	Thought process	Paraphrase
There are issues of personal safety.	<b>Option 1</b> There are problems of individual security [without change in word form]	Individual security is problematic.
	<b>Option 2</b> Individual security is problematic. [with change in word form]	

We can see that both options have same elements. They are both acceptable because all the key terms are paraphrased correctly. However, for the summary question, Option 2 is preferred because it alters the word form and thus the sentence structure, adding value to the language mark.

**Practice 1**

Write down two forms of paraphrase for each sentence (a) without a change in the word form, and (b) with a change in the word form.

- We all shared a common set of facts.

(a) \_\_\_\_\_

(b) \_\_\_\_\_

10 EXERCISE PAPERS

**Exercise Paper 1**

**Section A**

Select the best word(s) or phrase(s) to substitute the underlined words.

- Until about a century ago, the deep-ocean floor was completely inaccessible.
  - unreachable
  - unavailable
  - unavailable
  - unuse
- Deep-ocean sediments provide a climatic record stretching back hundreds of millions of years, because they are largely isolated from the mechanical erosion and the extreme chemical and biological activity that rapidly destroy much land-based evidence of past climates.
  - are well-protected
  - have land-based evidence
  - are in isolation
  - have a longer history
- To encourage more young people to join their camps, some groups have started offering active training programmes to give the growing number of disaffected young learners an avenue to release their frustration and work together against marginalisation.
  - originality
  - principal
  - movement
  - ration

11 WORD LISTS

**Word List 1 - Basic Words**

Word	Synonyms
ability	capability / skill / talent
accept	receive / embrace
accessible	approachable / reachable / attainable
accurate	exact / correct
accounted	tributed / owed / credited / furnished
act	take measures / behave / perform
admit	confess / acknowledge
advantage	edge / upper hand / benefit
advocate	champion / recommend / uphold
agree	concur / consent / decide on
alone	by oneself / on one's own / independently
ambitious	aspirant / ambitious
angry	irritated / furious / outraged
appreciate	value / treasure / cherish / prize
approach	move towards / speak to
argue	quarrel / disagree / claim
around the world	worldwide / global
ask	enquire / question / request / demand
attack	assault / criticise
attention	concentration / attention / notice / care
authority	governance / expert / premisson / power
avoid	keep away from / avoid / prevent / refrain from
beneficial	advantageous / helpful / beneficial / positive
begin	start / commence
believe	think / trust
benefit	be advantageous / helpful / useful to
biased	prejudiced / partial / one-sided / discriminatory

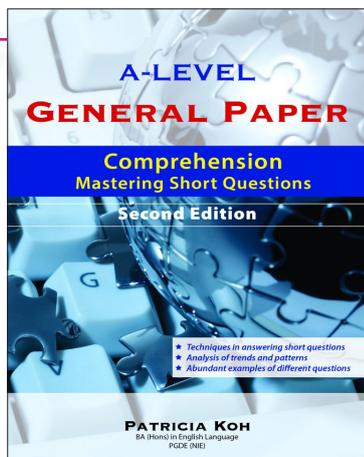
## Practices and Exercises

Paraphrasing practices for each skill followed by exercises with suggested answers.

## Word Lists

Equip students with necessary vocabulary to tackle paraphrasing questions.

## Mastering Short Questions



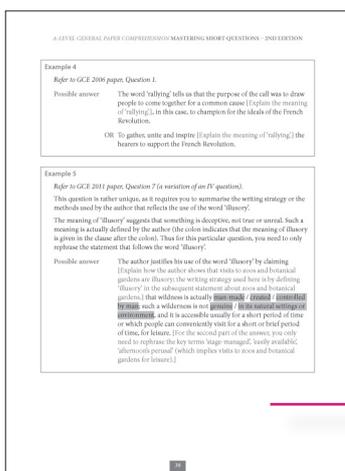
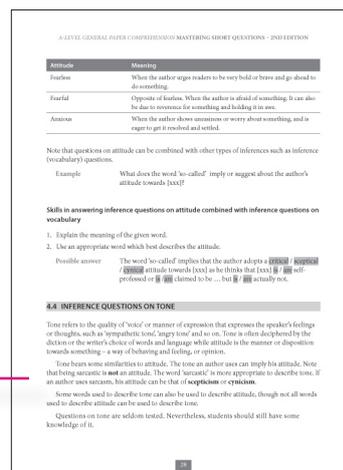
ISBN: 9789810977641

This book is written for students who need to understand what the General Paper Short Questions are about and require a comprehensive self-help guide to help them sort out and make sense of the different types of short questions. This book is written with the aim of helping students to conquer this section by providing comprehensive framework and skills in how to tackle the various types of short questions. The methods here have been tested and proven to work for many cohorts of students, helping them to do well for short questions, with a number scoring close to or even full marks for their school papers and examinations.



### Detailed Explanations

Provide comprehensive framework and skills in how to tackle the various types of short questions.



### Examples

Examples reference previous exam questions and guide students on how techniques can be applied.



# Ten-Year Series Answer Book

GCE A-LEVEL  
TEN-YEAR SERIES  
ANSWER BOOK

## GENERAL PAPER

Year 2008 to 2017

- Paper 1 Model Essays with Learning Points
- Paper 2 Complete Answers with Answering Techniques
- Sample Answers and Tips for Application Question (AQ)

IRWIN SEE  
M.S.T. (EMFORD), B.A. (HSE), PGDE (NIE)

ISBN: 9789811165016

This Answer Book Includes 60 essays covering different General Paper topics and themes, with comments on style, structure and content to improve students' essay-writing and techniques for Paper 1. Students can refer to the essays as a guide to how they can tackle the questions.

Full Paper 2 answers (including Summary and Application Questions) are also given with useful answering skills and techniques to sharpen students' comprehension skills.

Answers 2015 Answers

Paper 1

**QUESTIONS** **LEARNING POINTS**

**QUESTIONS**

- 1. This question requires an understanding of history and various situations between countries, although war may be the most common reason why a country would be engaged in conflict.
- 2. The additional 'forgive' should also be analysed, as what counts as forgiveness for one party may not be for another.

**SAMPLE ESSAY**

Countries are often interacting with each other, whether for greater cooperation or in times of conflict. In the latter case, nations are unacceptably often sometimes occur, leading to pain and hurt for certain countries, and this progress is often in their national consciousness. Compared with another nation in the past, however, more are choosing to base their policies on pragmatism, choosing to forgive instead. Therefore, I believe that gains mutual effects from nations could be the result of regional platforms, it is very possible for one country to forgive another for its past actions.

Some may claim that the possibility of forgiveness between two countries for past animosity depends highly on the severity of the past incidents. While some actions can be compensated, others still have and affect the present lives of many people today, making reconciliation an unworkable concept for many. While governments do have the power to forgive the other, they are often restricted as it does not always resonate well with their citizens, and hence efforts to make peace usually result in more hostility. For instance, in the Middle East, most of the Arab states still continue to impose economic sanctions towards Israel and follow the UNO (Resolution 242, Non-Recognition, No Peace, No Negotiation, No Recognition). As this action has gradually evolved with time, with original fundamentalists adding on a new layer to the conflict, it is unlikely that the Arab states can forgive Israel without compromising on the Palestinian issue and to a greater extent, they perceived difficult to blame, hence, whether countries can forgive each other is highly linked to the severity of the action, which when linked to ethnic and religious roots, can sometimes make it much harder to forgive and forget.

Moreover, the actions of the aggressor in post-aggression situations also play a part in determining whether one country can successfully forgive another country. If the country remains unrepentant or has acted against itself, it makes it harder for the other party to forgive. For one to forgive the other, sincere apologies must be forthcoming. As the saying goes, actions speak louder than words. If the aggressor nation only shows token gestures while engaging in actions that demonstrate otherwise, it becomes difficult for the aggrieved nation to forgive. For instance, despite Japanese officials having made official apologies, some government officials still visit the Yasukuni Shrine that pays tribute to those who died during the

**LEARNING POINTS**

The text is based on the main argument and the reasons behind it. The focus is on the main argument and the reasons behind it. The text is based on the main argument and the reasons behind it.

## Sample Essays

Paper 1 sample essays along with question analysis and learning points make it a better learning experience.

## Summary Question

The Summary Question section is presented in a table format to guide students through the process of picking out relevant points and paraphrasing them.

A-Level Answer Book General Paper

9. The author sees the previous result as people enjoying authentic relational bonds with artificial ones, leading to loneliness and isolation. He also points out the wide variety of choice which is readily given, and how real artists are under-appreciated due to the proliferation of media which is produced for anyone with average ability. Finally, the enticing and pervasive nature of the digital world makes us detached from reality.

Answering technique: This is a paraphrase question that requires you to paraphrase all the details of the text in your own words.

10. (No longer in current exam syllabus)

11. Summary Question

Point in Passage	Paraphrase
They can be effective, is often relaxed and random ...	Games activities that are neither strenuous, or goal-oriented
... so do for us reward other than itself ...	And is intrinsically enjoyable
... it not necessary to use reward ...	not essential for life
... and is something we choose to do when we are not at work ...	They are voluntary activities done in our free time
... others use that leisure in the strenuous pursuit of goals ...	However, some people use play to attain challenging aspirations as well
... children play is a vital element in their growth to maturity ...	Playing for children is crucial for their development
... they learn the nature of the world they live in ...	as they become accustomed to rules within society
... and how to relate to their peers ...	and how to interact with others
A task order is soon established ...	Social stratification develops
Not unlike the necessity ... essential for their success in the free-for-all we call society ...	which teaches them about thriving in the future
This organized social form of play continues to be a major feature in the pastimes of adults, either actively pursued ...	Sport is another form of play, either engaged in by individuals
... or enjoyed in a passive ...	or inhaled passively by people
Participants keep themselves fit ...	Sport boosts physical well-being
... enjoy the satisfactions of developing particular skills ...	nurtures certain aptitudes
... and achieving personal targets ...	accomplishes individual objectives
and experience the stimulus of competing ...	provides the thrill of outdoing one another
... sense of order and completion which is rules and time limits impose ... unlike the endless and arbitrary flow of events in our everyday lives ...	Sport is thus distinguished from the monotone, unexciting activities that fill our daily lives

- 11 -

A-Level Answer Book General Paper

12. Sample Answer for Application Question

Spigit generally welcomes the Internet for its potential as a tool for disseminating information, but also writes about possible effects on individuals and society. I agree with most of her observations, although I believe that they do not apply in large extent to my own society, Singapore.

Spigit believes that one potential benefit of the advent of the Internet is the possibility for 'active participation and collaboration with others' (line 21), which is highly applicable in the case of my society. In Singapore, the Internet is widely used, and is increasingly used as a platform for individuals from different walks of life to meet each other, discuss ideas and work together. For example, online Facebook groups and platforms such as venturap.com and yabber.com have become a powerful app for people with similar interests to meet each other first online, then in real life. People who join these groups often find themselves meeting people who they do not know or associate with. At the same time, online discussions have become the norm, as everyone who is behind a keyboard can comment and participate actively in civic discourse. Increased civic participation in discussion about important issues is definitely a positive development in Singapore, where equity used to be more prevalent.

However, Spigit also cautions that the ease of Internet access to qualities such as 'transcend[ing] inhibition' (line 61), which are undesirable. This may also be observed in Singapore, where the use of platforms such as Instagram has led to the proliferation of selfie and 'OOTD' (Outfit of the Day) practices which may encourage narcissism and exhibitionism as observed by Spigit. The other implication of such behaviour is the increasing emphasis on appearance, as people strive to make their life picture perfect - literally.

Spigit also argues that the Internet is creating 'a generation who claim rather than do, who click from source to source without real engagement or interest, the attendant consideration of knowledge' (lines 42-43), which I feel is a handy generalisation. While it's true that people may read whatever pops up on their Facebook pages and prefer reading online articles to opposed to books, I believe that there has simply been a shift in how information is processed. There is a multitude of information on the Internet, which should be seen as an asset, rather than a distraction. The reading of short, concise articles also serve as a paragon for deeper engagement, rather than superficial skimming as deemed by Spigit.

In conclusion, other than the increased ego-centric behaviour observed in my society, I believe that the Internet can potentially bring more benefits than harm to the new generation of Singaporeans for participation as well as information consumption.

**LEARNING POINTS**

There is a distinction between generalised and applicable to Singapore context.

Exaggerated description: things have changed over time in Singapore.

Further evaluation of possible implications is done.

There can be agreement on the government's interest, but individual interest is in either or negative action post government engagement.

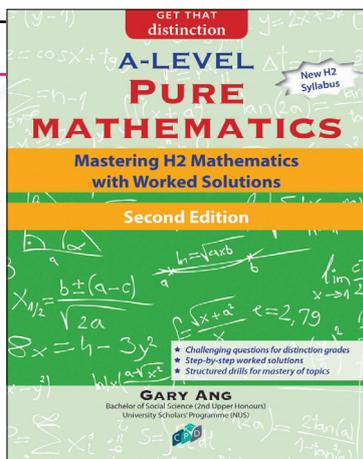
A key benefit analysis does not simply benefit as well as harm.

## Application Question

The Application Question answers are provided as a useful reference, but students should also feel free to consider other relevant issues not highlighted in the passages.



## H2 Mathematics



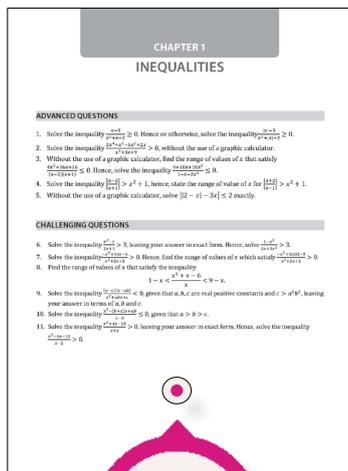
This book is specially designed for students who want to test their mathematical skills at a higher level. Though the Advanced Questions here are of a slightly higher standard than those in the A-Level examinations, students should be able to solve them. The Challenging Questions are designed to push the student's limits, though the skills needed to solve them are within the student's scope of knowledge. Detailed worked solutions enable students to learn from their mistakes and at the same time coach themselves on certain concepts.

### A-Level Pure Mathematics Mastering H2 Mathematics with Worked Solutions (Second Edition)

ISBN: 9789811116902

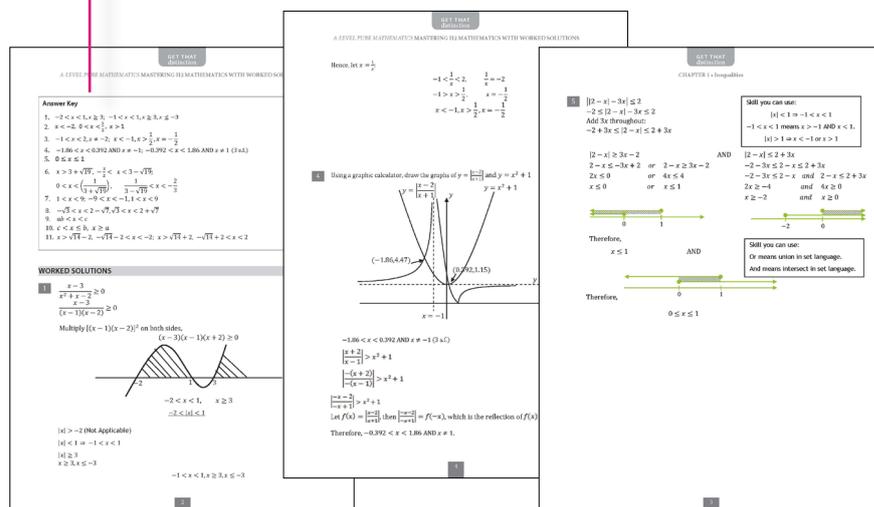
This Second Edition addresses the new H2 Mathematics syllabus where more emphasis is placed on the application of mathematics in real-world contexts. Such questions can be found in this book in topics like Arithmetic Progression (AP) and Geometric Progression (GP), and applications of differentiation and differential equations.

Questions in this book also include solving real-world financial problems using AP/GP and carbon dating using differential equations. It is hoped that through exposure to these problems, students can have a better appreciation of the mathematics that they are learning.



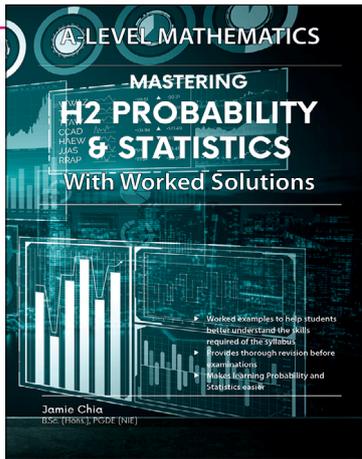
### Answers & Solutions

Answers and worked solutions are provided separately for students to have a quick check on the final answer before looking at the solutions. Additional notes and tips are also included in the solutions for greater understanding.



### Advanced & Challenging Questions

Two levels of questions per chapter for students to challenge themselves.



Following the Probability and Statistics topic of the GCE A-Level Mathematics Higher 2 syllabus, this book offers additional practices for students. The materials contain worked examples to help students better understand the skills required of the syllabus and provides thorough revision before examinations.

**A-Level Mathematics Mastering  
Probability & Statistics with  
Worked Solutions**  
ISBN: 9789814996662

**Permutations and Combinations**

8. Lily has four identical star shaped ornaments and six identical heart shaped ornaments.

(a) Find the number of ways in which Amy can arrange the ten ornaments in a line. [1]  
The star shaped ornaments are coloured Red, Green, Yellow and Purple, and the heart shaped ornaments are then coloured Red, Green, Yellow, Purple, Black and White.

(b) Find the number of ways in which Lily can arrange the ten ornaments in a line such that exactly five heart shaped ornaments are next to each other. [3]

(c) Lily then decides to arrange the ten ornaments in a circular manner. Find the number of ways in which all ornaments of the same colour are next to each other. [2]

9. A group of eight people consists of one pair of sisters, Amy and Betty, and six others. The group stands in a queue in random order.

(a) Find the number of ways of arranging if either Amy is first or Betty is last (or both). [2]

The group is then brought to a round table with seats numbered 1 to 12.

(b) Find the number of ways of arranging if the sisters are to sit together. [3]

(c) Find the number of ways of arranging if the sisters are directly opposite each other. [3]

10. Three families comprising of six adults and three children go on an outing to a theme park.

(a) There are a total of 15 amusement rides in the theme park. A child insists on trying out at least 2 of the 15 amusement rides. Calculate the number of ways in which this can be done. [2]

(b) One of the highlights in the theme park is the "Mummy Surprise" rollercoaster ride, where the passengers are seated in a passenger car with seats arranged in 3 rows and 3 columns in the diagram.


(i) Calculate the number of ways in which the three families can be seated if there are no restrictions. [1]

(ii) Tom, the youngest child in the group, is fearful of the ride and insists on sitting next to his mother before he agrees to get onto the passenger car. Calculate the number of ways in which this can be done. [2]

(c) The three families proceed to the restaurant for lunch. They are allocated a circular table with 9 seats. Calculate the number of possible seating arrangements for the group if none of the children sit together. [2]

(a) in the consonants (S, T) are not all together. [3]  
(b) all the vowels (A, I) cannot be next to one another. [3]  
(c) How many ways can 3 letters be selected from the letters of the word STATISTICS [1]

**Mastering H2 Probability & Statistics with Worked Solutions**

erent arrangements of the twelve letters of the word which the consonants and vowels alternates. [3]  
salty password is to be designed using the above letters. [3]  
sible passwords that can be formed when more than 3 and repetition of letters is not allowed. [3]

f arranging the letters of the word [1]  
ter are both A, [2]  
d the 2Ms are together but the 2Ts must be separated. [4]

o arrange six married couples if [3]  
h at least one man not standing next to his wife, [3]  
h exactly five men standing next to their wives. [3]

o arrange the twelve letters of the word PERSISTENCE [1]  
ch that the vowels are placed adjacent to one another. [2]  
d at random from the twelve letters of the word [2]  
tern a code word. The code word can contain at most two [3]  
number of possible code words.

4 adults and 3 children goes for dinner at a Japanese restaurant. [1]  
of adjacent seats in front of the Sushi Conveyor belt, [2]  
sible seating arrangements if all the 3 children will sit together [2]  
6 for dessert after dinner and they sit at a round table. [3]  
sible seating arrangements if at most two children can be seated [3]

h which the letters of the word STATISTICS can be arranged [1]  
(a) in the consonants (S, T) are not all together. [3]  
(b) all the vowels (A, I) cannot be next to one another. [3]  
(c) How many ways can 3 letters be selected from the letters of the word STATISTICS [1]

## Answers & Solutions

Answers and worked solutions are provided for students to check their answers and to learn from their mistakes.

## Advanced & Challenging Questions

A variety of challenging questions for students to test their understanding of key concepts.

**Permutations and Combinations**

**Worked Solutions**

1. (a) No. of ways without restriction =  $\frac{10!}{2! \times 2! \times 2!} = 453\,600$  ways  
(b) No. of ways =  $453\,600 - 7! = 448\,560$  ways  
(c) No. of ways =  $\frac{5! \times 6! \times 3!}{2! \times 2!} = 10\,800$  ways  
(d) Case #01 (Letter I is not between the 2 Ds) =  $4C1 \times 2! \times \frac{8!}{2!} = 20\,160$  ways  
Case #02 (One letter I is between the 2 Ds) =  $2! \times 7! = 10\,800$  ways  
No. of ways =  $10\,800 + 20\,160 = 30\,960$  ways

2. (a) No. of ways =  $12C9 \times 9! = 79\,833\,600$  ways  
(b) No. of ways =  $3! \times 4! \times 2! \times \frac{6!}{2!} = 34\,560$  ways  
(c) No. of ways =  $79\,833\,600 - 2! \times 11C8 \times 8! = 66\,528\,000$  ways  
OR =  $79\,833\,600 - 2! \times \frac{11!}{2!} = 66\,528\,000$  ways  
(d) No. of ways =  $3C1 \times 4C1 \times 2! \times \frac{10!}{3!} = 14\,515\,200$  ways

3. (a) No. of ways =  $9! \times 10C3 \times 3! = 261\,273\,600$  ways  
(b) (i) No. of ways =  $(6-1)! \times (2!)^2 = 7680$  ways  
(ii) No. of ways =  $(2-1)! \times 6! \times 6! = 518\,400$  ways  
(iii) No. of ways =  $(6-1)! \times 6! = 86\,400$  ways  
(iv) No. of ways =  $86\,400 \times 12 = 1\,036\,800$  ways

4. Case #01 (4 same colour) =  $2C1 = 2$   
Case #02 (3 same colour) =  $2C1 \times 3C1 = 6$   
(b) Case #03 (2 same colour) =  $2C1 \times 3C2 \times 1 = 7$   
Case #04 (all different) =  $4C4 = 1$   
No. of ways =  $2 + 6 + 7 + 1 = 16$   
Case #01 (4 same colour) =  $3C1 = 3$   
Case #02 (3 same colour) =  $3C1 = 3$   
Case #03 (2 same colour, other 2 different colours) =  $4C1 \times 3C2 = 6$   
Case #04 (2 same colour + another 2 of another same colour) =  $4C1 \times 3C2 = 6$   
Case #05 (all different) =  $4C4 = 1$   
No. of ways =  $3 + 3 + 12 + 6 + 1 = 25$

**A-Level Mathematics: Mastering H2 Probability & Statistics with Worked Solutions**

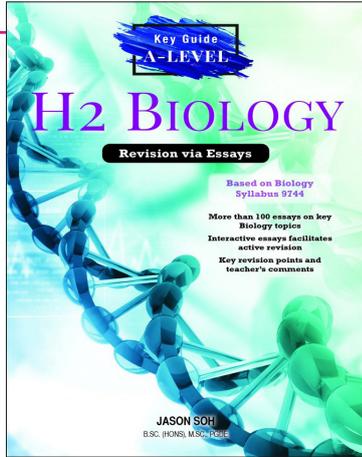
5. No. of possible adjacent paired lots =  $(7-1) \times (5-1) = 10$  ways  
(a) No. of ways =  $12! - 10C1 \times 2! \times 10! = 466\,425\,600$  ways  
(b) No. of ways =  $12! - 4C2 \times 2! \times 10! = 454\,545\,600$  ways  
(c) No. of ways =  $10C2 \times 2! \times 2! \times 2! \times (12-4)! = 14\,515\,200$  ways  
(d) No. of ways =  $12C10 \times 10! = 239\,500\,800$   
OR =  $\frac{12!}{3!} = 239\,500\,800$

6. (a) No. of ways =  $26! \times 10! = 676\,000$  ways  
(b) No. of ways =  $52! \times 5! = 338\,000$   
(c) No. of ways =  $52 \times 50 \times 10 \times 9 \times 8 = 1\,872\,000$  ways  
(d) No. of ways =  $26C1 \times 3 \times 2! \times 10C1 \times 9 \times \frac{3!}{2!} = 42\,120$  ways

7. (a) No. of ways =  $\frac{9!}{4! \times 4!} = 60\,480$  ways  
(b) No. of ways =  $6! \times 3! = 4320$  ways  
(c) No. of ways =  $(3-1)! \times 6! = 1440$  ways  
OR =  $3! \times 6! \times 3 = 1440$  ways  
(d) No. of ways =  $(2C1)^2 \times (2!)^2 \times 3! \times 3! = 2304$  ways

8. (a) No. of ways =  $\frac{10!}{4! \times 4!} = 210$  ways  
(b) In order to have exactly 5 heart shaped ornaments next to each other, the remaining single heart must be separated from the group of 5 hearts.  
No. of ways to choose and arrange the 5 heart =  $6C5 \times 5!$   
No. of ways to arrange four stars =  $4!$   
No. of ways to slot the group of 5 hearts and the single heart into separate slots =  $5C2 \times 2!$   
Required number of ways =  $4! \times 6C5 \times 5! \times 3C2 \times 2! = 345\,600$   
(c) 2 Red, 2 Green, 2 Yellow, 2 Purple, 1 Black and 1 White  
No. of ways =  $(6-1)! \times 2! = 1920$

# Biology



**Revision via Essays**  
ISBN: 9789811176371

This book, which is based on the Biology syllabus 9744, contains more than 100 essays arranged by topic for easy revision. The interactive nature of the essays helps students to learn key concepts, terms and phrases effectively. The key points of each essay are clearly organised so that students will be able to identify the important points needed for each question and understand the requirements.

CORE IDEA 3: ENERGY AND EQUILIBRIUM	
Essay 17	172
Essay 18	174
Essay 19	176
Essay 20	178
Essay 21	180
Essay 22	182
Essay 23	184
Essay 24	186
Essay 25	188
Essay 26	190
Essay 27	192
Essay 28	194
Essay 29	196
Essay 30	198
Essay 31	200
Essay 32	202
Essay 33	204
Essay 34	206
Essay 35	208
Essay 36	210
Essay 37	212
Essay 38	214
Essay 39	216
Essay 40	218
Essay 41	220
Essay 42	222
Essay 43	224
Essay 44	226
Essay 45	228
Essay 46	230
Essay 47	232
Essay 48	234
Essay 49	236
Essay 50	238
Essay 51	240
Essay 52	242
Essay 53	244
Essay 54	246
Essay 55	248
Essay 56	250
Essay 57	252
Essay 58	254
Essay 59	256
Essay 60	258
Essay 61	260
Essay 62	262
Essay 63	264
Essay 64	266
Essay 65	268
Essay 66	270
Essay 67	272
Essay 68	274
Essay 69	276
Essay 70	278
Essay 71	280
Essay 72	282
Essay 73	284
Essay 74	286
Essay 75	288
Essay 76	290
Essay 77	292
Essay 78	294
Essay 79	296
Essay 80	298
Essay 81	300
Essay 82	302
Essay 83	304
Essay 84	306
Essay 85	308
Essay 86	310
Essay 87	312
Essay 88	314
Essay 89	316
Essay 90	318
Essay 91	320
Essay 92	322
Essay 93	324
Essay 94	326
Essay 95	328
Essay 96	330
Essay 97	332
Essay 98	334
Essay 99	336
Essay 100	338
Essay 101	340
Essay 102	342
Essay 103	344
Essay 104	346
Essay 105	348
Essay 106	350
Essay 107	352
Essay 108	354
Essay 109	356
Essay 110	358
Essay 111	360
Essay 112	362
Essay 113	364
Essay 114	366
Essay 115	368
Essay 116	370
Essay 117	372
Essay 118	374
Essay 119	376
Essay 120	378
Essay 121	380
Essay 122	382
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Essay 124	386
Essay 125	388
Essay 126	390
Essay 127	392
Essay 128	394
Essay 129	396
Essay 130	398
Essay 131	400
Essay 132	402
Essay 133	404
Essay 134	406
Essay 135	408
Essay 136	410
Essay 137	412
Essay 138	414
Essay 139	416
Essay 140	418
Essay 141	420
Essay 142	422
Essay 143	424
Essay 144	426
Essay 145	428
Essay 146	430
Essay 147	432
Essay 148	434
Essay 149	436
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Essay 154	446
Essay 155	448
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Essay 157	452
Essay 158	454
Essay 159	456
Essay 160	458
Essay 161	460
Essay 162	462
Essay 163	464
Essay 164	466
Essay 165	468
Essay 166	470
Essay 167	472
Essay 168	474
Essay 169	476
Essay 170	478
Essay 171	480
Essay 172	482
Essay 173	484
Essay 174	486
Essay 175	488
Essay 176	490
Essay 177	492
Essay 178	494
Essay 179	496
Essay 180	498
Essay 181	500
Essay 182	502
Essay 183	504
Essay 184	506
Essay 185	508
Essay 186	510
Essay 187	512
Essay 188	514
Essay 189	516
Essay 190	518
Essay 191	520
Essay 192	522
Essay 193	524
Essay 194	526
Essay 195	528
Essay 196	530
Essay 197	532
Essay 198	534
Essay 199	536
Essay 200	538

## Comprehensive Topics

More than 100 biology essays that cover all the topics needed for the national examinations.



## Key Terms

Key terms for scoring are highlighted at the start of each essay.

KEY GUIDE 3 • (11) BIOLOGY • REVISION VIA INTERACTIVE ESSAYS

**Essay 9** Discuss how viruses may have evolved.

**Key terms**  
transposons, nucleic acid, plasmids, mitochondria, parasites, polyphyletic evolution

**Key point 1 Escaped gene hypothesis**  
According to the escaped gene hypothesis, some viruses may be fragments of ... that have escaped from cellular organisms such as animal cells, plant cells or bacterial cells. Evidence of this hypothesis includes species specificity of viruses, where the virus can only infect species that are closely related to the organisms from which they originated. This is also supported by the greater genetic similarity between some viruses and their host cells than with other types of viruses.

Some viruses are obligate ... the multiple origins of viruses (i.e. ... ) is further complicated by viruses evolving with their host cells and developing adaptive changes (e.g. to occupy detection by immune cells).

**Key point 2 Early evolution of viruses in the history of life**  
Viruses can evolve early in the history of life, before the divergence of the three domains. Evidence includes the genetic similarity and the similarity of the protein structures of proteins encoded between some viruses that infect the Archaea and some viruses that infect the Bacteria. It is unlikely that these similarities had arisen independently of each other. However, it is unclear how viruses could evolve before their hosts since viruses are obligate parasites.

**Key point 3 Originated as mobile genetic elements**  
Viruses could have evolved from mobile genetic elements (e.g. 4, ... ) or small circular DNA fragments (e.g. 5, ...). Such fragments could have moved from one cell and entered another through damaged cell membranes.

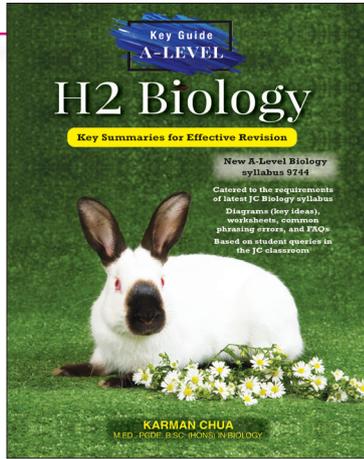
**Specific topics / concepts**  
Evolution of viruses  
Teacher's comments  
Polyphyletic evolution refers to the descent from more than one ancestral group.  
Oligonucleotide probes are used to identify DNA sequences.  
Bacteriophages are viruses that infect bacteria.  
Transposons are mobile genetic elements that can move from one site to another within the genome.  
Obligate parasites are organisms that cannot live independently.  
Polyphyletic evolution refers to the descent from more than one ancestral group.  
Adaptive evolution is the process by which organisms become better suited to their environment.  
Mobile genetic elements are DNA sequences that can move from one site to another within the genome.

18



## Teacher's Comments

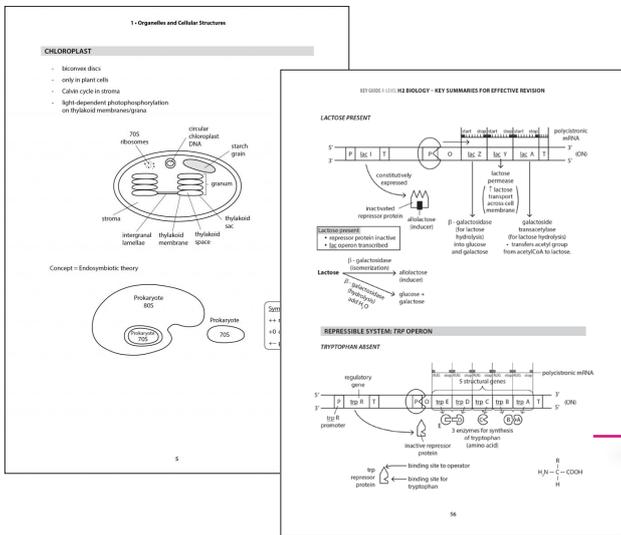
Key revision points and teacher's comments are shown so that students can improve their answer structure.



## Key Summaries for Effective Revision

ISBN: 9789811180385

This book is the product of an accumulation of ten years' worth of on-the-ground teaching experience in JC H2 Biology classrooms. It caters to the requirements of the latest JC Biology syllabus 9744. The book features diagrams (as key ideas), worksheets, and common phrasing errors in answering questions. The FAQs enclosed are based on student queries and feedback in the JC classroom.



## Diagrams

Key ideas of each topic are presented in a clear and summarised manner with diagrams for easy reading and quick referencing.

## Common Student Queries

Answers to common student queries are provided for additional information and better understanding of key ideas taught.

KEY IDEAS | H2 BIOLOGY - KEY SUMMARIES FOR EFFECTIVE REVISION

**DNA AND GENOMICS: COMMON STUDENT QUERIES / FAQ**

**Q1: What's a "nucleoside mono-phosphate"?**  
 Ans: A nucleoside mono-phosphate is a nucleotide with one phosphate group.

**Q2: What's a "nucleoside tri-phosphate"?**  
 Ans: It's a nucleotide with 3 phosphate groups attached. Nucleotides usually exist as nucleoside tri-phosphates since they're more stable. When joined with a phosphate, they form polynucleotide DNA, they become nucleoside mono-phosphate, losing 2 phosphate groups (hydrolysis/photolysis/ATP to the process).

**Q3: What's "dATP"?**  
 Ans: dATP means deoxyribonucleoside with nitrogenous base Adenine. It's a nucleoside tri-phosphate, containing a deoxyribose pentose sugar, 3 phosphate groups, and nitrogenous base adenine.

**Q4: What's "dNTP"?**  
 Ans: dNTP is the abbreviation used by scientists to represent any of the 4 possible deoxyribonucleotides (dATP, dCTP, dGTP or dTTP).

**Q5: Is there such a thing as "dATP"?**  
 Ans: Yes, dATP is a nucleoside tri-phosphate containing nitrogenous base adenine. But I thought ATP is the energy molecule of the cell!

**Ans:** Yes, they are the same thing. ATP is the energy currency of the cell, as you have learned in Sec 4 Biology. But it's also one of the 4 basic building blocks (nucleotides) that the cell needs to form a DNA molecule.

**Q6: So that means ATP must be a nucleoside tri-phosphate containing nitrogenous base adenine. But I thought ATP is the energy molecule of the cell!**  
 Ans: Yes, they are the same thing. ATP is the energy currency of the cell, as you have learned in Sec 4 Biology. But it's also one of the 4 basic building blocks (nucleotides) that the cell needs to form a DNA molecule.

**Q7: I have difficulty trying to remember which bases are purines, and which bases are pyrimidines.**  
 Ans: You just have to remember the word "purge". Hence you will remember that Purines are Guanine and Adenine, hence cytosine, thymine and uracil must be pyrimidines.

**Q8: I cannot remember whether purine is a one-ring structure, or a two-ring structure.**  
 Help!  
 Ans: One ring (the structure goes "big fish, small fish")! You just have to remember that one purine is a short word, it's a large molecule, hence purine has a two-ring structure. Similarly, two pyrimidines is a long word, hence it's a small molecule, hence pyrimidine is a one-ring structure.

**Q9: I cannot remember the sugar codes (DNA, UGA, UMG). Is there any way to remember them?**  
 Ans: Here's a mnemonic to remember them:  
 UGA: U-Gee-Gee  
 UAG: U-Gee-Beep  
 UMG: U-Gee-Gee.

KEY IDEAS | H2 BIOLOGY - KEY SUMMARIES FOR EFFECTIVE REVISION

**EXERCISE: IDENTIFY THE MISTAKE!**

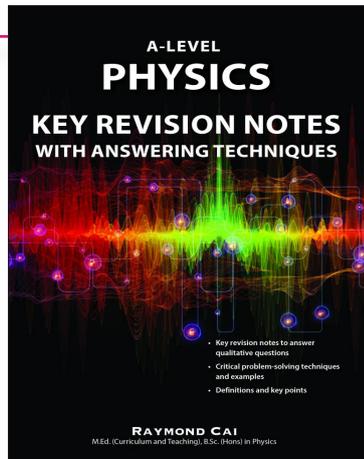
(COMMON PHRASING ERRORS BY STUDENTS)

- The rate of glycolysis is to phosphorylate glucose into 3 molecules of pyruvate for the pathway to aerobic respiration.
- Electron carrier proteins embedded in the cristae transfer electrons to one another, causing the electrons to drop in energy level.
- The electron transport chain allows for the regeneration of  $\text{NAD}^+$  from reduced  $\text{NAD}$ , in order for glycolysis to continue.
- In glycolysis, the  $\text{C-C}$  atom is phosphorylated twice, forming fructose-1,6-bisphosphate.
- Pyruvate is decarboxylated when its carboxyl group is removed as carbon dioxide.
- High energy electrons in its atoms present in reduced  $\text{NAD}$  are transferred to protons, complex of the ETC. The electron carrier is reduced, while  $\text{NAD}^+$  is regenerated for reuse in the link pathway and Krebs cycle.
- Pyruvate is oxidatively decarboxylated, and then combined with  $\text{CoA}$  to form acetyl  $\text{CoA}$ ,  $\text{CO}_2$ , and  $\text{NADH}$ .
- When high energy electrons are passed through the ETC, energy released by the electrons is used to pump protons from the matrix into the cristae. This creates a proton gradient in the intermembrane space.
- Reduced  $\text{NAD}$  transfers  $\text{H}^+$  ions to the ETC for  $\text{ATP}$  synthesis.
- High energy phosphorylation of  $\text{ADP}$  molecules and  $\text{FDP}$  molecules are removed to form  $\text{ATP}$  which is used in the later processes of glycolysis and Krebs cycle in aerobic respiration.
- Carboxyl group is removed from pyruvate as  $\text{CO}_2$  to oxidize pyruvate.
- Unlike the carbonylated pyruvate combined with  $\text{CoA}$  to form acetyl  $\text{CoA}$ , which is important to proceed with Krebs cycle in aerobic respiration.
- A proton-motive force in the intermembrane space, so that the hydrogen protons can diffuse back into the matrix through the  $\text{ATP}$  synthase.
- $\text{ATP}$  can be synthesized which is important for glycolysis and the Krebs cycle of aerobic respiration to continue.
- Pyruvate can be used in the link pathway, and  $\text{ATP}$  can be used in oxidative phosphorylation.
- Furthermore decarboxylation of pyruvate releases hydrogen atoms that reduce  $\text{NAD}^+$ .
- The ETC is responsible for the production of energy used to pump protons across the cristae.
- In oxidative phosphorylation, oxygen is the final electron and hydrogen acceptor, forming water.
- Reduced  $\text{FAD}$  transfers its electrons to the first electron protein carrier of the ETC.
- Proton carriers of the ETC use energy released by the electrons to pump protons across the inner membrane of the cristae.

## Exercises

Exercises such as identifying common phrasing errors are included to reinforce concepts learnt.

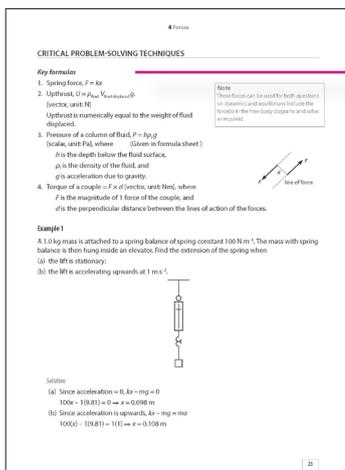
# Physics



**Key Revision Notes with Answering Techniques**  
ISBN: 9789811427299

This book is specially designed for students who want to grasp the essence of each topic in the A-Level H2 Physics syllabus as well as gain exposure to common qualitative questions, a component where many students stumble.

In the examination, students are required to recall and apply key definitions and formulas. This book serves as a quick reference guide in attempting practice questions as well as a handy revision prior to a test or a quiz. Critical problem-solving techniques are illustrated through worked examples to help students understand how the formulas can be applied, while sample qualitative questions are compiled to help students pick up the key words that examiners look out for.

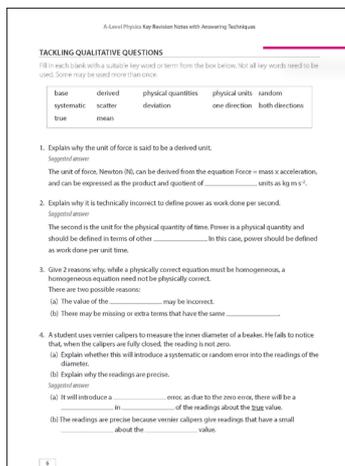
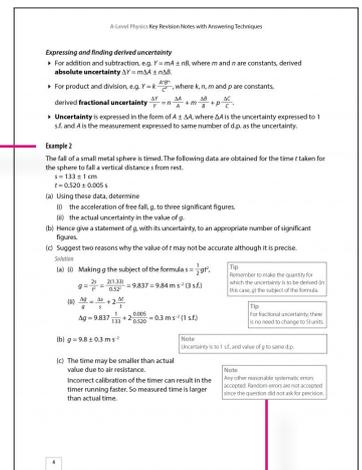


## Key Formulas

Key formulas of each topic are listed.

## Examples

Carefully selected questions used as examples help students see beyond the formulas.

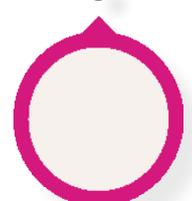


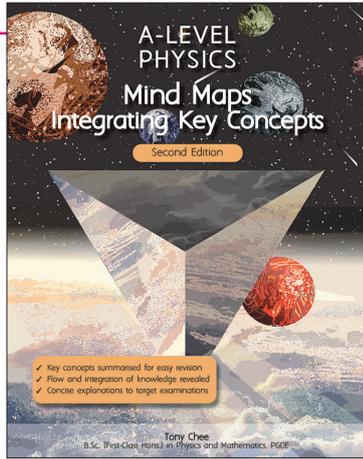
## Qualitative Questions

Sample qualitative questions have key words intentionally left out so that students pay attention to the key words and ideas, which will come in handy during examinations.

## Tips

Learning points, notes and tips help ensure students remember the steps and formulas.



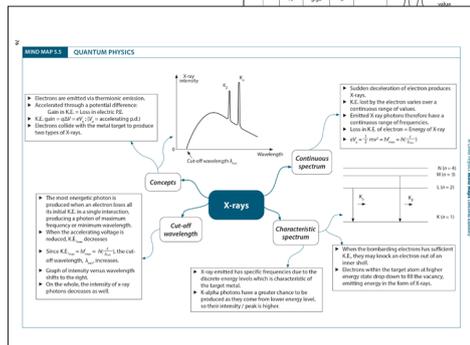
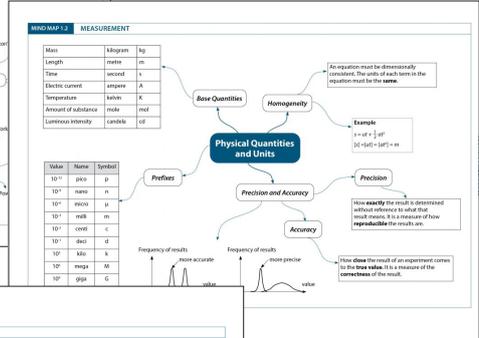
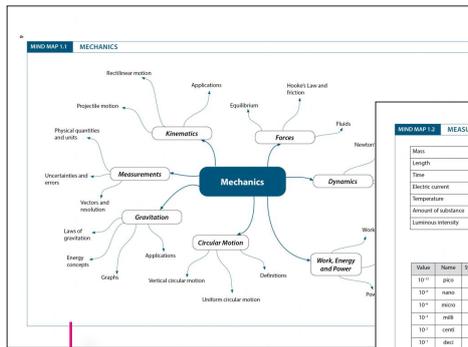
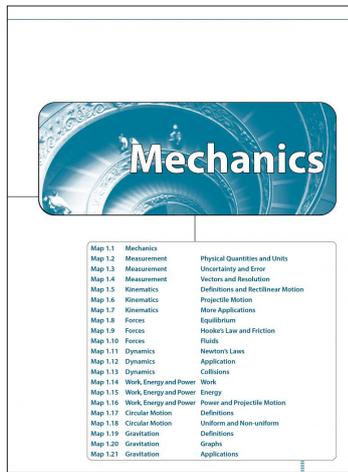


**Mind Maps Integrating Key Concepts**  
 ISBN: 9789811447402

A-Level Physics Mind Maps is written for students who are taking the GCE A-Level Physics examinations. In this Second Edition, various changes according to the latest syllabus modifications as well as improvements to existing content have been made to ensure that the mind maps continue to enhance the learning of physics concepts.

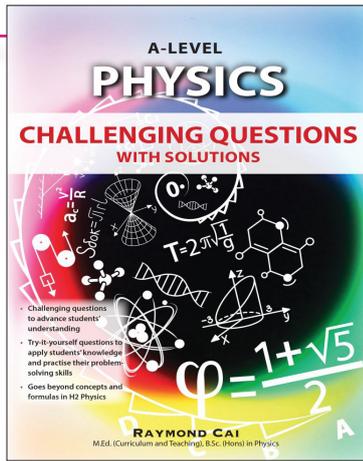
The contents are arranged in order of topic and laid out according to the Cambridge syllabus. The contents have been organised into concise notes to facilitate quick and easy revision for students. Each topic is then further divided into smaller sub-topics from which the main concepts are distilled. It is around these main concepts that the mind maps are built upon.

Students can use the contents of this book to systemise and compartmentalise their understanding of each topic. In each mind map, the flow of the thought processes from one concept to another is shown by arrow connectors. With these connectors, the links between concepts and how they integrate to form the larger ideas of each topic should become clearer.



## Topical Mind Maps

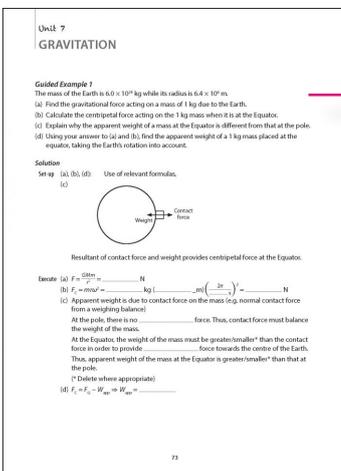
Mind maps are created and arranged by topic. Within each topic mind maps are further divided by key concepts.



**Challenging Questions with Solutions**  
ISBN: 9789811427282

This book is specially designed for students who want to go beyond the concepts and formulas in each topic of the new 2017 A-Level H2 Physics syllabus. In examinations, students are required to show understanding of and apply key concepts to often novel and challenging scenarios.

This book serves as a compendium of selected challenging questions to advance students' understanding. Key concepts are illustrated through worked examples, while try-it-yourself questions give students the chance to apply their knowledge and practice problem solving skills. Each topic ends off with a spot-the-mistake exercise to help students identify common errors and misconceptions.



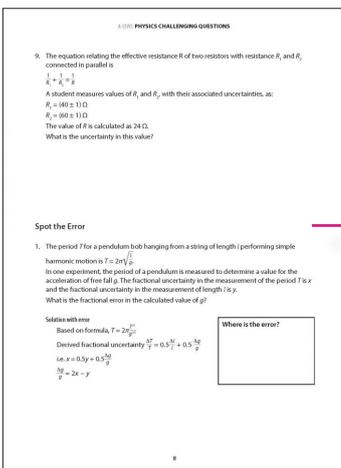
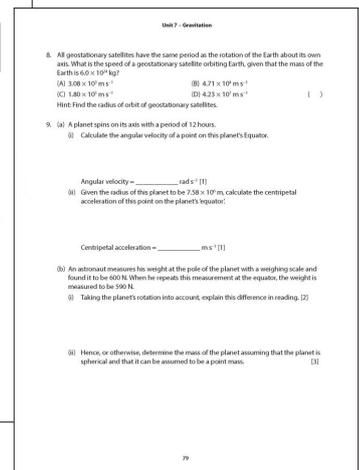
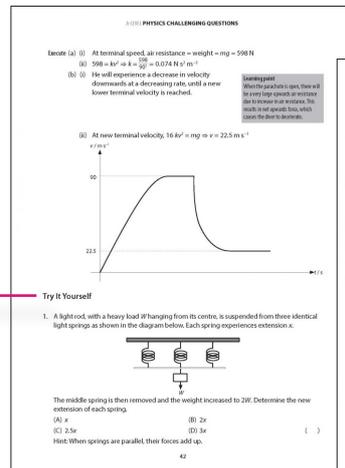
### Guided Examples

Solutions in guided examples are interactive so students can be involved in the solving process and learn more efficiently.



### Try it Yourself

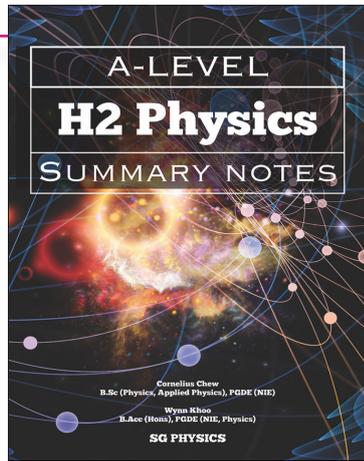
Selected challenging MCQs and structured questions are included, with hints provided.



### Spot the Error

Spot the Error sections allow students to identify mistakes and be more aware of similar mistakes in their own answers.

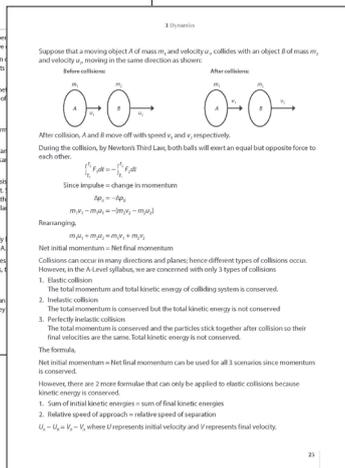
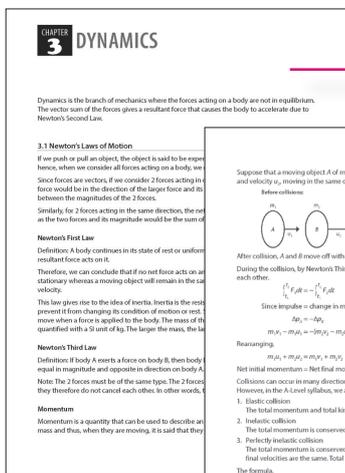




**Summary Notes**  
ISBN: 9789811460548

This revision guidebook is written specially to help students comprehend the main concepts in the new A-Level H2 Physics syllabus better. The chapters are well organised in a systematic way to help students study independently and revise in an effective way.

The book begins with an introductory chapter on physical quantities and measurements and follows the sequence of the MOE-approved textbook closely. Each chapter consists of simple and easy to remember explanations of key Physics concepts using the appropriate technical jargon required to score full credit in the examinations.

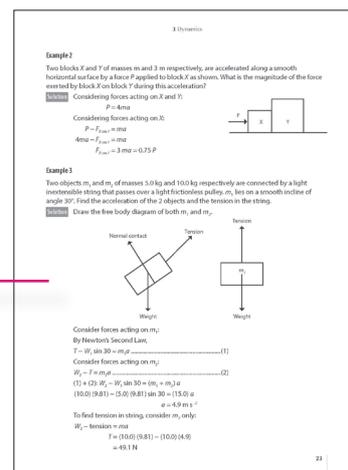


## Key Concepts

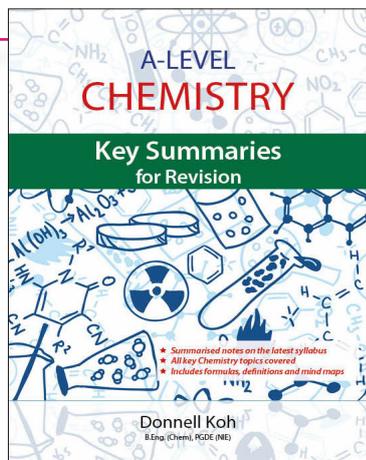
Detailed explanations of each key concept, with definitions, formulas and example scenarios.

## Worked Examples

Each concept is further explained with worked examples to emphasise how to apply the concepts learnt.



# Chemistry



**Key Summaries for Revision**  
ISBN: 9789811102059

A-Level Chemistry is a content heavy subject. Students may feel overwhelmed with the vast amount of information that they need to process. This book aims to help students understand the key concepts of Chemistry easily by extracting the key concepts required for each topic.

Key features include:

- Summarised notes for all key Chemistry topics based on the latest revised syllabus.
- Complete list of definitions and key formulas in each Physical Chemistry topic for quick reference.
- Comprehensive Organic Chemistry mind maps and summaries for easy learning.
- Key summaries in Inorganic Chemistry presented in point form for easy memorisation.

## Detailed Diagrams

This book contains numerous detailed diagrams to aid students in their revision.

**SUMMARY 2: Atomic Structure**

**Behaviour of Protons, Neutrons and Electrons in Electric and Magnetic Fields**

**Electric Field**  
beams of protons, neutrons and electrons with the same velocity  
Angle of deflection  $(\theta) = \frac{q}{m}$

**Shapes of Orbitals**  
An orbital represents a region in space where there is a high probability (>95%) of finding an electron.

**s-orbitals**  
• spherical in shape  
• as  $n$  increases, the orbitals become more diffuse

**p-orbitals**  
• dumbbell in shape  
• 3p orbitals are labelled  $p_x$ ,  $p_y$  and  $p_z$ , as  $n$  increases, the orbitals become more diffuse

**d-orbitals**  
Note: Must draw  $x$ ,  $y$  and  $z$  axes!  
The lobes are pointing between two of the axes - not along them.  
The lobes point along the various axes.

**SUMMARY 2: Atomic Structure**

**Electronic configurations involving more than 18 electrons**

4s orbital is filled first before the 3d orbitals. 4s electrons are removed first before 3d electrons.

$4s^1$ :  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^1$  Fe:  $1s^2 2s^2 2p^6 3s^2 3p^6 3d^6 4s^2$   
 $2d^{10}$ :  $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10}$  Fe $^{3+}$ :  $1s^2 2s^2 2p^6 3s^2 3p^6 3d^5$   
 $2f^{14}$ :  $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4f^{14}$

**Anomalous electronic configurations**  
The electronic configurations for chromium ( $_{24}\text{Cr}$ ) and copper ( $_{29}\text{Cu}$ ) are anomalous.

Expected configuration:  $_{24}\text{Cr}$  [Ar]  $4s^1 3d^5$   
 Actual configuration:  $_{24}\text{Cr}$  [Ar]  $4s^1 3d^5$

Expected configuration:  $_{29}\text{Cu}$  [Ar]  $4s^2 3d^9$   
 Actual configuration:  $_{29}\text{Cu}$  [Ar]  $4s^1 3d^{10}$

Electronic Configuration of Cr: [Ar]  $4s^1 3d^5$  not [Ar]  $4s^2 3d^4$   
 Electronic Configuration of Cu: [Ar]  $4s^1 3d^{10}$  not [Ar]  $4s^2 3d^9$

**Trends in 1<sup>st</sup> Ionisation Energy**

5 main points:  
 • In general, 1<sup>st</sup> ionisation energy increases across the period.  
 • 1<sup>st</sup> ionisation energy decreases down the group.  
 • 1<sup>st</sup> ionisation energy increases across the d-block.  
 • 1<sup>st</sup> ionisation energy increases across the f-block.  
 • 1<sup>st</sup> ionisation energy increases across the g-block.

**SUMMARY 15: Alkanes and Alkenes**

**SUMMARY 16: Hydroxyl Compounds**

**Phenol**  
(no need to draw complex)  
Note: Phenol does not react with carboxylic acid to form phenyl ester. Phenol is a weak nucleophile as the lone pair of electrons on O is delocalised into the benzene ring, making it less available for donation. NaOH is added to convert phenol to phenoxide ion which is a stronger nucleophile.

**Phenol**  
Note: Phenol and tertiary alcohol cannot be oxidised. Only primary and secondary alcohols can be oxidised.

## Mind Maps

Mind maps are used to summarise key points, which provide a visual stimulus for quick referencing and more effective revision.

# CHEMISTRY

Year 2012 to 2017

- Full answers to Paper 1 and Paper 2
- Complete answers supported by diagrams and graphs

EILEEN TAN  
B.Sc (LIFE SCIENCES)

Ten-Year Series Answer Book

ISBN: 9789811171871

Practising using real A-Level questions also familiarises students with the way these papers are set. While this year's paper will no doubt be different from that of last year's, it does not hurt to see and feel the general standard of the A-Level paper.

This Answer Book is designed to show students effective answering techniques so they can use them to their benefit when they take their A-Level Chemistry examination.

## Comprehensive Answers

Answers are supported by diagrams and graphs so that students can do self-revision.



**2015**

2. (a) The oxidizability of halogens decreases from Cl<sub>2</sub> to I<sub>2</sub>. From Cl to I, electron cloud size as the M<sub>r</sub> of the molecule increases. Hence, it is more difficult and therefore displaces an more weakly oxidising energy is required to overcome the strongest temporary dipole-dipole between molecules. Hence, an increasing amount of energy is required to overcome the strongest temporary dipole-dipole between molecules. Hence, an increasing amount of energy is required to overcome the strongest temporary dipole-dipole between molecules. Hence, an increasing amount of energy is required to overcome the strongest temporary dipole-dipole between molecules.

(b)  $\text{Cl}_2(\text{g}) + \text{OH}^-(\text{aq}) \rightarrow \text{HOCl}(\text{aq}) + \text{Cl}^-(\text{aq})$

(c)  $\text{Cl}_2(\text{g}) + \text{OH}^-(\text{aq}) \rightarrow \text{HOCl}(\text{aq}) + \text{Cl}^-(\text{aq})$

(d)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(e)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(f)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(g)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(h)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(i)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(j)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(k)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(l)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(m)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(n)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(o)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(p)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(q)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(r)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(s)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(t)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(u)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(v)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(w)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(x)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(y)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

(z)  $\text{pH} = 1.23 \rightarrow 10^{-1.23} = 0.0589$

**2016**

5. (a)  $\text{E}^\ominus_{\text{Cu}^{2+}/\text{Cu}} = +0.34 \text{ V}$

$\text{E}^\ominus_{\text{Zn}^{2+}/\text{Zn}} = -0.76 \text{ V}$

Total  $\text{E}^\ominus = +0.34 \text{ V} - 0.76 \text{ V} = -0.42 \text{ V}$

(b)  $\text{Cu}^{2+} + 2\text{e}^- \rightarrow \text{Cu}$  ... (1)

$\text{Zn} \rightarrow \text{Zn}^{2+} + 2\text{e}^-$  ... (2)

$\text{Cu}^{2+} + \text{Zn} \rightarrow \text{Cu} + \text{Zn}^{2+}$  ... (3)

(c)  $\text{Cu}^{2+} + 2\text{e}^- \rightarrow \text{Cu}$  ... (1)

$\text{Zn} \rightarrow \text{Zn}^{2+} + 2\text{e}^-$  ... (2)

$\text{Cu}^{2+} + \text{Zn} \rightarrow \text{Cu} + \text{Zn}^{2+}$  ... (3)

(d)  $\text{E}^\ominus_{\text{Cu}^{2+}/\text{Cu}} = +0.34 \text{ V}$

$\text{E}^\ominus_{\text{Zn}^{2+}/\text{Zn}} = -0.76 \text{ V}$

Total  $\text{E}^\ominus = +0.34 \text{ V} - 0.76 \text{ V} = -0.42 \text{ V}$

(e)  $\text{Cu}^{2+} + 2\text{e}^- \rightarrow \text{Cu}$  ... (1)

$\text{Zn} \rightarrow \text{Zn}^{2+} + 2\text{e}^-$  ... (2)

$\text{Cu}^{2+} + \text{Zn} \rightarrow \text{Cu} + \text{Zn}^{2+}$  ... (3)

**2012**

3. (a) (i)  $\text{Mg}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O} \rightarrow \text{Mg}^{2+} + 2\text{NO}_3^- + 6\text{H}_2\text{O}$

(ii) Down Group 2, the thermal stability of the Group 2 nitrates will increase. Down the group, the cations will increase in size due to weaker nuclear attraction and this will decrease the charge density and subsequently the polarising power of the cations. Hence, the cations will distort the anion electron shell to a smaller extent down the group and there will be less weakening of the O-N bond. Therefore, more energy is needed to break the bond which leads to the decomposition of the nitrates, which means that a higher temperature is needed and hence, it is more stable.

(b) (i)  $\text{C}_6\text{H}_6 + \text{Br}_2 \rightarrow \text{C}_6\text{H}_5\text{Br} + \text{HBr}$

(ii)  $\text{C}_6\text{H}_6 + \text{Br}_2 \rightarrow \text{C}_6\text{H}_5\text{Br} + \text{HBr}$

(iii)  $\text{C}_6\text{H}_6 + \text{Br}_2 \rightarrow \text{C}_6\text{H}_5\text{Br} + \text{HBr}$

(iv)  $\text{C}_6\text{H}_6 + \text{Br}_2 \rightarrow \text{C}_6\text{H}_5\text{Br} + \text{HBr}$

(v)  $\text{C}_6\text{H}_6 + \text{Br}_2 \rightarrow \text{C}_6\text{H}_5\text{Br} + \text{HBr}$

(vi)  $\text{C}_6\text{H}_6 + \text{Br}_2 \rightarrow \text{C}_6\text{H}_5\text{Br} + \text{HBr}$

(vii)  $\text{C}_6\text{H}_6 + \text{Br}_2 \rightarrow \text{C}_6\text{H}_5\text{Br} + \text{HBr}$

(viii)  $\text{C}_6\text{H}_6 + \text{Br}_2 \rightarrow \text{C}_6\text{H}_5\text{Br} + \text{HBr}$

(ix)  $\text{C}_6\text{H}_6 + \text{Br}_2 \rightarrow \text{C}_6\text{H}_5\text{Br} + \text{HBr}$

(x)  $\text{C}_6\text{H}_6 + \text{Br}_2 \rightarrow \text{C}_6\text{H}_5\text{Br} + \text{HBr}$

(xi)  $\text{C}_6\text{H}_6 + \text{Br}_2 \rightarrow \text{C}_6\text{H}_5\text{Br} + \text{HBr}$

(xii)  $\text{C}_6\text{H}_6 + \text{Br}_2 \rightarrow \text{C}_6\text{H}_5\text{Br} + \text{HBr}$

(xiii)  $\text{C}_6\text{H}_6 + \text{Br}_2 \rightarrow \text{C}_6\text{H}_5\text{Br} + \text{HBr}$

(xiv)  $\text{C}_6\text{H}_6 + \text{Br}_2 \rightarrow \text{C}_6\text{H}_5\text{Br} + \text{HBr}$

(xv)  $\text{C}_6\text{H}_6 + \text{Br}_2 \rightarrow \text{C}_6\text{H}_5\text{Br} + \text{HBr}$

(xvi)  $\text{C}_6\text{H}_6 + \text{Br}_2 \rightarrow \text{C}_6\text{H}_5\text{Br} + \text{HBr}$

(xvii)  $\text{C}_6\text{H}_6 + \text{Br}_2 \rightarrow \text{C}_6\text{H}_5\text{Br} + \text{HBr}$

(xviii)  $\text{C}_6\text{H}_6 + \text{Br}_2 \rightarrow \text{C}_6\text{H}_5\text{Br} + \text{HBr}$

(xix)  $\text{C}_6\text{H}_6 + \text{Br}_2 \rightarrow \text{C}_6\text{H}_5\text{Br} + \text{HBr}$

(xx)  $\text{C}_6\text{H}_6 + \text{Br}_2 \rightarrow \text{C}_6\text{H}_5\text{Br} + \text{HBr}$

SPOT EXCEL PUBLISHERS

## A-Level H2 CHEMISTRY Practical Guide

Eric Kua

**Practical Guide**

ISBN: 9789811170980

- Comprehensive content notes on experimental and planning techniques
- Complete summary of organic qualitative analysis and distinguishing tests
- Includes large variety of possible questions
- Thorough description of possible experimental procedures

Written according to the current A-Level syllabus, this book touches on the major chemistry topics including stoichiometry, kinetics, energetics, organic and inorganic synthesis, etc. Using as many question types as possible, these questions are meant to give students an insight to the variety and range of possible questions. Experimental procedures have also been written with great care and exposes students to as many different experimental approaches as possible. This will be a useful framework to scaffold students' learning for the planning component of chemistry practicals.

## Comprehensive Questions

Questions cover a wide range of question types so that students are equipped to answer questions for any skills that may be thrown their way during examinations.



**Titration**

**Question 1**

**Determination of concentration of unknown**

Titration is a common experimental technique used to determine the concentration of an unknown solution. In a standard acid-base titration, if a solution of known concentration (a fixed volume of acid) is added to a solution of unknown concentration, until reaction is just complete. It is important that the volumes of solutions used are measured precisely apparatus such as pipettes and burettes.

In this experiment, you are required to carry out a titration and determine the exact concentration of the hydrochloric acid.

You are provided with:

**FA 1** contains approximately 2.0 mol dm<sup>-3</sup> hydrochloric acid

**FA 2** contains 0.200 mol dm<sup>-3</sup> aqueous sodium hydroxide, NaOH

**Thymol blue indicator**

**Procedure**

- Using a pipette, measure accurately 25.0 cm<sup>3</sup> of FA 1 into a clean and dry 250 cm<sup>3</sup> standard flask. Tap the bottom of the standard flask a few times to ensure transferred into the standard flask.
- Top up to the mark on the standard flask with distilled water to add the last few drops carefully.
- Stopper the standard flask and invert it several homogeneous solution.
- Using a clean pipette, transfer 25.0 cm<sup>3</sup> of the diluted standard flask. Add 2 drops of thymol blue indicator.
- Fill a burette with FA 2. Record the initial burette reading.
- Titrate the diluted FA 1 against FA 2 until the colour of the standard flask turns from yellow to green. You do this step carefully as the change could occur when the final burette reading.

**Calculations**

Show your working clearly, leaving all your answers to appropriate significant figures or decimal place.

- Calculate the amount of NaOH present in the mean titre.
- Calculate the amount of HCl present in the standard flask.

**Question 2**

**Determination of K<sub>c</sub> value**

Ethyl ethanoate can be prepared in the laboratory by a condensation reaction between ethanoic acid and ethanol. The equilibrium reaction is presented in the equation below.

$$\text{CH}_3\text{CO}_2\text{H} + \text{C}_2\text{H}_5\text{OH} \rightleftharpoons \text{CH}_3\text{CO}_2\text{C}_2\text{H}_5 + \text{H}_2\text{O}$$

This reaction usually takes a long time for equilibrium to be reached. For equilibrium to be reached faster, an acid catalyst can be added. Most commonly, hydrochloric acid is used. A catalyst increases the rate of both the forward and backward reactions, allowing equilibrium to be reached in a much shorter time. However, using a catalyst does not affect K<sub>c</sub>.

In this experiment, you are required to perform a titration of four pre-prepared samples that have been kept in a thermostatically controlled water bath at 30 °C for a week. You will then use your results to determine the equilibrium constant, K<sub>c</sub>, for this reaction.

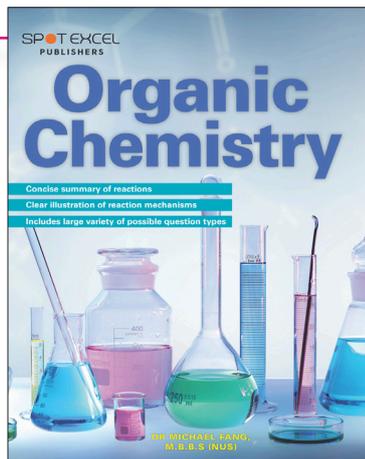
You are provided with:

**FA 1** contains 0.100 mol dm<sup>-3</sup> aqueous sodium hydroxide, NaOH (aq)

**Thymol blue indicator**

The four samples that have already been prepared beforehand contain varying volumes of each reagent. The make-up of these four samples are presented in the table below.

Sample	Volume / cm <sup>3</sup>				
	HCl (1.0 mol dm <sup>-3</sup> )	CH <sub>3</sub> CO <sub>2</sub> H	C <sub>2</sub> H <sub>5</sub> OH	CH <sub>3</sub> CO <sub>2</sub> C <sub>2</sub> H <sub>5</sub>	H <sub>2</sub> O
A	5.00	15.00	15.00	15.00	0.00
B	5.00	15.00	15.00	15.00	15.00
C	5.00	15.00	0.00	15.00	15.00
D	5.00	15.00	15.00	0.00	15.00



**Organic Chemistry**  
ISBN: 9789811407987

Being a content heavy topic, studying organic chemistry becomes easier only when the content is concise and arranged neatly. This book gives a broad but in-depth overview of the important concepts, reactions and mechanisms that are crucial in mastering organic chemistry. Countless numbers of reactions have been organised neatly for easier studying. Questions have been crafted to expose students to as many question types as possible.

Cycloalkanes can also exhibit geometric isomerism.

**Note**  
Cycloalkanes with more than 8 carbon atoms do not exhibit geometric isomerism. They only exist as cis isomers as the trans would result in severe angle strain.

Other geometric isomerism structures:

**Chemical Properties**

**1. Acid reactions**  
Since hydroxy compounds are acidic, they exhibit acidic properties and are able to react with bases and metals like other acids.

Reagent: Na (s)  
E.g. alcohol:  $\text{CH}_3\text{CH}_2\text{OH} + \text{Na} \rightarrow \text{CH}_3\text{CH}_2\text{O}^- \text{Na}^+ + \frac{1}{2} \text{H}_2$   
E.g. phenol:  $\text{C}_6\text{H}_5\text{OH} + \text{Na} \rightarrow \text{C}_6\text{H}_5\text{O}^- \text{Na}^+ + \frac{1}{2} \text{H}_2$

Observations: slow effervescence of  $\text{H}_2$  observed for alcohols / rapid effervescence observed for phenols

Reagent: NaOH (aq)  
Alcohols however, are not strong enough acids to react with bases. They are only able to react with metals. Phenols, as stronger acids, are able to react with both metals and bases.  
E.g. phenol:  $\text{C}_6\text{H}_5\text{OH} + \text{NaOH} \rightarrow \text{C}_6\text{H}_5\text{O}^- \text{Na}^+ + \text{H}_2\text{O}$

Observations: cloudy mixture dissolves to form a colourless, homogenous solution

**2. Reactions with hydroxy compounds**

**A. Elimination**  
• strong conc.  $\text{H}_2\text{SO}_4$   
• heat  
•  $\text{O}_2/\text{Al}_2\text{O}_3$   
• heat

**B. Condensation / Nucleophilic Substitution (S<sub>N</sub>2)**  
• conc.  $\text{HCl}$   
• heat  
•  $\text{O}_2/\text{Al}_2\text{O}_3$   
• Condensation reaction is reversible  
• Phenols unable to undergo condensation as lone pair on O delocalises into benzene ring, lone pair is less available for nucleophilic attack.

**C. Step down Oxidation (Sodium)**  
•  $\text{I}_2/\text{NaOH}$  (aq)  
• warmth  
• yellow precipitate of  $\text{CHI}_3$  observed

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## Concise Summaries

Key concepts, reactions and mechanisms are presented in neat and easy-to-read formats supported by illustrations.

1. Which of the following option best explains the difference in boiling points between the two compounds below?

compound A                      compound B

a) Compound A is spherical while compound B is linear.  
b) Oxygen is more electronegative than nitrogen.  
c) Compound A has 3 lone pairs of electrons while compound B has 4 lone pairs of electrons.  
d) Hydrogen bonding is stronger than dipole-dipole interactions. ( )

2. Which of the following compounds below, has the highest carbon to hydrogen ratio in its general formula?

a) haloalkanes  
b) arenes  
c) alcohols  
d) carboxylic acids ( )

3. Leaf alcohol is a stereoisomer that is formed when insects such as caterpillars eat green leaves. The structure below is that of a leaf alcohol.

a) Draw the displayed formula of the other stereoisomer of the leaf alcohol.

b) The leaf alcohol reacts with HCl to form compound X.  
i. Draw the structure of compound X.

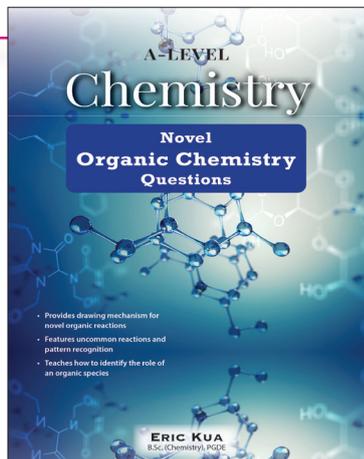
ii. Name the stereoisomerism exhibited by compound X and illustrate this form of isomerism using drawn structures.

c) Explain how stereoisomerism arises in  
i. the leaf alcohol  
ii. compound X

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## Practice Questions

This book contains practice questions to test the students' knowledge. Answers are provided for self-evaluation.



## Novel Organic Chemistry Questions

ISBN: 9789811410659

Novel Organic Chemistry Questions is written for H2 Chemistry students preparing for GCE A-Level examination. Its aim is to expose students who are competent in basic organic concepts to higher-order application questions.

The organic reactions featured in this guide are used to help students draw parallels and extrapolate from their existing knowledge. They are also expected to predict possible products from novel organic reactions.

In this guide, students will learn the following:

- Pattern recognition for novel organic reactions
- Novel mechanism drawing
- Synthesis based on novel reactions
- Broad classification of organic species
- Thought process in organic elucidation questions

CONTENTS	
Question 1	Aromatic Substitution
Question 2	Claisen Condensation
Question 3	Diels
Question 4	Structural Synthesis
Question 5	Functional Group Level
Question 6	DBAL
Question 7	Wittig Reaction
Question 8	1,2-methyl shift
Question 9	Carbene
Question 10	Gilman reagent
Question 11	Claisen Condensation
Question 12	Formose Reaction
Question 13	Robt-electrolysis
Question 14	Bayley-Villiger oxidation
Question 15	Oxidation reactions
Question 16	Bicyclic formation
Question 17	Decarboxylation
Question 18	Pinacol-pinacolone rearrangement
Question 19	Diels-Alder reaction
Question 20	Protecting group - Acetal
Question 21	Degree of Unsaturation
Question 22	Ozonolysis
Question 23	Acid catalyzed condensation
Question 24	Tiffeneau-Demjanov Rearrangement
Question 25	Resonance
Question 26	Cyclization
Question 27	Free Radical Substitution
Question 28	Homocyclic Formation
Question 29	Diastereotization
Question 30	Curtius rearrangement
Worked Solutions	

**Questions**

1. Fat yellow AB was a food dye that has been banned from usage as it has been shown to be harmful to human bodies. The structure of fat yellow AB is shown below.

(a) One of the precursor compounds used in the acid, produced from heating benzene with  $\text{H}_2\text{SO}_4$ .

(b) In the first step of the mechanism, one mol sulfuric acid and loses a molecule of water.

State the type of reaction between benzene and sulfuric acid. Show relevant lone pairs, curly arrows.

**Questions**

(i) What is the role of  $\text{OH}^-$  in step 1 of alkaline hydrolysis? [1]

(ii) What is the role of  $\text{H}^+$  in acidic hydrolysis? [1]

(iii) What is the role of water in acidic hydrolysis? [1]

(iv) Give two advantages of alkaline hydrolysis. [2]

(v) Claisen condensation is a carbon-carbon bond forming reaction that can occur between two esters in the presence of a strong base, resulting in a  $\beta$ -keto ester. General equation is as shown below.

In the mixture of methyl ethanoate and ethyl methanoate, two different Claisen condensation products are formed.

## Questions

The book contains 30 questions covering the full range of topics and question types for students to practice and apply concepts learnt.

## Worked Solutions

Worked solutions include tips, explanations and common mistakes. Patterns in the novel reactions are also highlighted for clarity.

**Worked Solutions**

In the mixture of methyl ethanoate and ethyl methanoate, two different Claisen condensation products are formed.

Structure (D) is an isotope of hydrogen.

**Pattern recognition**

Predict the structures of  $\beta$ -keto esters formed when ethyl ethanoate is mixed with methyl propanoate under suitable reaction conditions.

Remove an  $-\text{OR}$  group and a  $\text{H}$  atom from each ester.

ethyl ethanoate methyl propanoate

It marks - likely to be a structure.

Note: The esters can undergo self-condensation. So there are 4 possible products e.g. A, B, C, D.

**Novel Organic Chemistry Questions**

(b) Nitriles can also be reduced to give aldehyde by another reducing agent, di-isobutyl aluminium hydride, DBAL.

$\text{RCN} \rightarrow \text{RCHO}$

Novel Reducing Agent can reduce nitrile to aldehyde. You will need to use this reaction.

(i) By considering the change in oxidation states of the reacting carbon, suggest why the conversion of  $\text{R}_2\text{C}=\text{NR}$  to an aldehyde is a reduction reaction. The oxidation state of carbon changes from +2 in nitrile to +1 in aldehyde. [1]

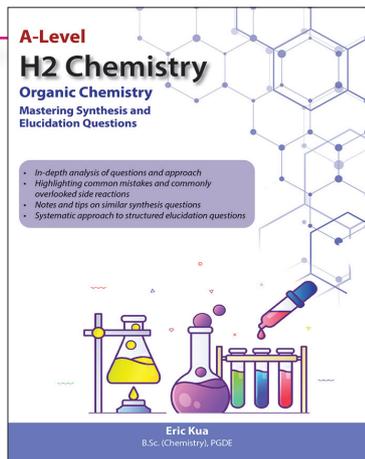
In organic molecules, you need to assign +1 and -1 charge based on electronegativity for every atom. If it is a double bond, assign +2 and -2. For C-H bond, it gets +1 and C gets -1.

(ii) Compound A can be synthesized in 4 steps from bromoethane as shown below, using DBAL as one of the steps.

Target molecule has 2 more C. It uses 2 step-up reactions.

Target molecule has  $\text{COOH}$  and  $\text{OH}$  on the same C, implies a carbonyl intermediate. Then use  $\text{H}_2\text{NCH}_2\text{OH}$  to get the final molecule.

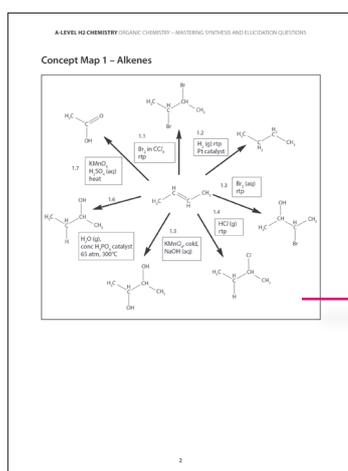
Suggest reagents and conditions for the 4 steps and draw the structures of all intermediates. [5]



**H2 Organic Chemistry**  
**Mastering Synthesis and**  
**Elucidation Questions**  
 ISBN: 9789811497698

Written for students taking the GCE A-Level Higher 2 Chemistry examination, this guidebook covers two of the five major types of organic questions: Organic Synthesis and Structure Elucidation. Understanding the thought processes of how to approach synthesis and elucidation questions is the main goal of this book. Rather than just presenting answers matter-of-factly, there will be in-depth analysis coupled with highlighting of common mistakes made by students.

The questions are arranged in order of difficulty to help students gradually get comfortable with the analysis method. For synthesis questions, the number of steps required to achieve the target organic molecule are stated at the start of the questions to avoid ambiguity. Students should note that they need to select the shortest synthesis route whenever possible.

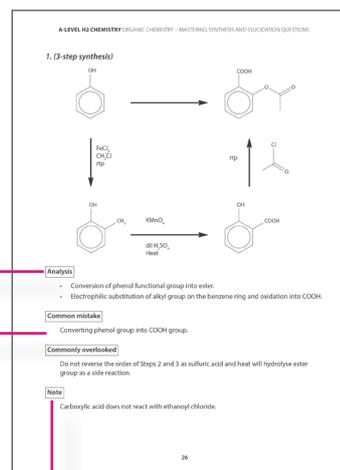


## Concept Maps

Concept maps are provided for quick reference and revision.

## Analysis

In-depth analysis of question and approach.

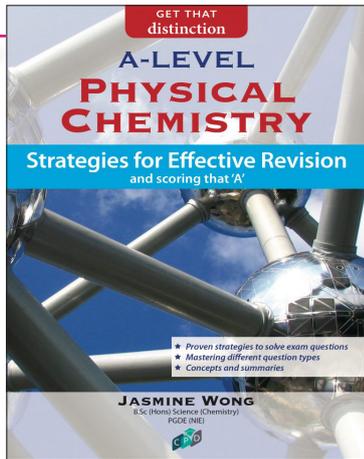


## Common Mistake & Commonly Overlooked

Common mistakes and commonly overlooked side reactions are highlighted.

## Note

Notes and tips on similar synthesis questions.



**Physical Chemistry**  
ISBN: 9789810977658

Exposure to different question types is a far more effective strategy for studying than merely practising as many question as there are available. This book illustrates and delivers the power of condensing the required questions and information for students and shows them the types of questions that are likely be tested in the A-Level Chemistry examination, and in doing so prepares their mindset for scoring well in their examinations.

This book is the students' recipe to scoring an 'A' in Chemistry, the secret of which lies in the organisation of relevant information from the Chemistry syllabus. In this way, the student masters Chemistry by breaking each topic into the different types of questions that he or she will possibly encounter in the examination.

CHAPTER 1  
**MOLE, MOLECULES AND STOICHIOMETRY**

This chapter is categorised into the 3 types of commonly tested questions in examination.

**A. TO DETERMINE THE MOLECULAR FORMULA OF GASEOUS HYDROCARBON THROUGH COMBUSTION WITH EXCESS OXYGEN GAS**  
General combustion equation

$$C_xH_y + (x + \frac{y}{4})O_2 \rightarrow xCO_2 + \frac{y}{2}H_2O$$

The analysis involves 2 steps.

Step 1: Calculate the volume of  $CO_2$  formed and the volume of  $O_2$  reacted using the following:

- Volume of  $CO_2$  formed = second contraction in volume (after passing remaining gases through alkali)
- First contraction in volume (after combustion) =  $V_{CO_2} + V_{H_2O} - V_{O_2}$

Step 2: Equate the volume ratio hydrocarbon :  $CO_2$  formed to the coefficient of hydrocarbon :  $CO_2$ .

Example: Volume of hydrocarbon =  $\frac{1}{x}$ , Volume of  $CO_2$  formed =  $\frac{1}{1}$ . Solve for  $x$ .

Step 3: Equate the volume ratio hydrocarbon :  $O_2$  reacted to coefficient of hydrocarbon :  $O_2$ .

Example: Volume of hydrocarbon =  $\frac{1}{x}$ , Volume of  $O_2$  reacted =  $x + \frac{y}{4}$ . Solve for  $y$ .

## Easy-to-follow Strategies

Strategies are provided in a step-by-step manner.

CHAPTER 1 • Mole, Molecules and Stoichiometry

**B. CALCULATIONS ON ACID-BASE REACTIONS**

Common questions tested for this section

- Simple acid-base titration
- Back titration
- Acid-carbonate and acid-hydrogen carbonate titrations

**Definitions**

Relative atomic mass,  $A_r$ : The ratio of the average mass of 1 mole of atoms of the element to  $\frac{1}{12}$  of the mass of  $^{12}C$  atoms.  
or  
The ratio of the average mass of an atom of an element to  $\frac{1}{12}$  of the mass of a  $^{12}C$  atom (in units).

Isotopes:  $A_r$  = Sum of relative isotopic mass  $\times$  relative abundance  
Atoms of the same element that have the same number of protons but different number of neutrons.  
**NOTE:**  $^{13}C$  and  $^{14}C$  are naturally occurring isotopes of carbon.

**Must-know formula**

- Amount of B (in mol) =  $\frac{\text{mass of B (in g)}}{\text{molar mass of B (in g mol}^{-1}\text{)}}$
- Amount of B (in mol) =  $\frac{\text{number of particles of B}}{\text{Avogadro constant (6.02} \times 10^{23}\text{)}}$
- Amount of B (in mol) =  $\frac{\text{volume of B (in dm}^3\text{)}}{\text{molar volume of B (in dm}^3\text{ mol}^{-1}\text{)}}$
- Amount of B (in mol) = concentration of B (in mol dm $^{-3}$ )  $\times$  volume of B (in dm $^3$ )
- Concentration of B (in mol dm $^{-3}$ ) =  $\frac{\text{amount of B (in mol)}}{\text{volume of B (in dm}^3\text{)}}$
- Concentration of A in a diluted solution = concentration of A in original solution  $\times$  dilution factor  
= concentration of A in original solution  $\times \frac{\text{volume of original solution without dilution}}{\text{total volume of diluted solution}}$

## Practices

Test Yourself sections allow students to check their understanding of strategies and concepts.

GET THAT distinction

A-LEVEL PHYSICAL CHEMISTRY STRATEGIES FOR EFFECTIVE REVISION

**Test Yourself**

1. 30 cm $^3$  of a gaseous hydrocarbon Z (C $_x$ H $_y$ ) was exploded with an excess of oxygen. There was a contraction in the volume of 185 cm $^3$ . When the products were treated with excess potassium hydroxide solution, there was a further contraction of 139 cm $^3$ . All volumes are measured at r.t.p. Deduce the molecular formula of Z.

**Applying the strategies**

Calculate the volume of  $CO_2$  formed and volume of  $O_2$  reacted.

Solve for  $x$ .

Solve for  $y$ .

**Suggested solution**

KOH is basic and will react away all acidic gases produced, i.e.  $CO_2$  will be absorbed.

Second contraction: Volume of  $CO_2$  produced = 185 cm $^3$

First contraction:  $V_{CO_2} + V_{H_2O} - V_{O_2} = 185$  cm $^3$

$\therefore$  Volume of  $O_2$  reacted = 185 - 30 + 150 = 225 cm $^3$

All volumes are measured at r.t.p. so we can exclude water in our calculation.

Volume ratio of hydrocarbon :  $CO_2$  formed = coefficient of hydrocarbon :  $CO_2$  formed

$$\frac{\text{Volume of hydrocarbon}}{30} = \frac{1}{1}$$

$$\frac{30}{120} = \frac{1}{1}$$

$$30 = 120$$

$$\therefore x = 5$$

Volume ratio of hydrocarbon :  $O_2$  reacted = coefficient of hydrocarbon :  $O_2$  reacted

$$\frac{\text{Volume of hydrocarbon}}{30} = \frac{1}{x + \frac{y}{4}}$$

$$\frac{30}{120} = \frac{1}{5 + \frac{y}{4}}$$

$$\frac{30}{120} = \frac{1}{5 + \frac{y}{4}}$$

Substituting  $x = 5$  and solving the equation,  $y = 10$ .

$\therefore$  Molecular formula of Z is C $_5$ H $_{10}$ .

## Definitions and Formulas

Important definitions and formulas are presented together to improve efficiency in learning.

## Flow Charts

Flow charts provided for easy revision.

GET THAT distinction

A-LEVEL PHYSICAL CHEMISTRY STRATEGIES FOR EFFECTIVE REVISION

**Flow chart for solving acid-base calculation**

Check whether there are more than 2 reactants involved.

NO: Simple acid-base titration

YES: Back titration

Reactant A of unknown concentration is reacted with excess reagent B of known concentration.  
Reaction (i):  $A + B \rightarrow C$

A titration is then performed to determine the amount of reactant B left after Reaction (i).  
Reaction (ii):  $B + D \rightarrow E$

Step 1: Write balanced equations for all reactions.  
Step 2: Apply the necessary formula to solve.

Step 1: Write balanced equations for all reactions.  
Step 2: Calculate the total number of excess reagent B added to A of unknown concentration.  
Step 3: From the titration results obtained, calculate the amount of reagent B left after Reaction (i).  
Amount of B that reacts with A = total amount of B added - amount of B reacted on titration (i.e. Reaction (ii))  
Step 4: Using mole ratios, calculate the amount of the unknown A.  
Step 5: Solve the question.

GET THAT distinction

CHAPTER 4 • The Ideal Gas

**CHAPTER SUMMARY**

**A. EXPLANATORY-BASED QUESTIONS**

Basic assumptions of an ideal gas

Conditions under which a real gas behaves almost like an ideal gas

1. \_\_\_\_\_
2. \_\_\_\_\_

Identify, with explanations, which gas is more ideal

**B. CALCULATION-BASED QUESTIONS USING THE IDEAL GAS EQUATION, BOYLE'S LAW AND CHARLES' LAW**

Ideal Gas Equation

Direct Application of the Ideal Gas Equation

Strategies

1. \_\_\_\_\_
2. \_\_\_\_\_

Comparison of ratios

Strategies

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**C. SKETCHING GRAPHS TO ILLUSTRATE BOYLE'S LAW, CHARLES' LAW AND THE IDEAL GAS EQUATION**

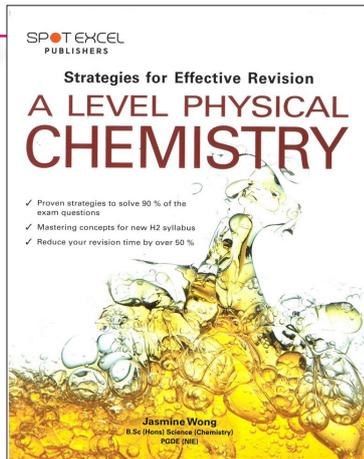
Strategies

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Note: If there is insufficient writing space, please use a separate sheet of paper for this.

## Chapter Summaries

Summaries at the end of each chapter for students to consolidate their learning which makes for better revision and quicker referencing.



**Physical Chemistry**  
ISBN: 9789811415234

The secret to scoring an 'A' in Chemistry lies in the organisation of relevant information. This book helps students to master Physical Chemistry by breaking each topic into the different types of examination questions.

It uses proven strategies that allow students to solve at least 90% of all Physical Chemistry questions in the examination. It is also about understanding failure, where strategies to understand and be aware of the mistakes made by students from the examiner's perspectives are included.

**Chapter 1 Mole, Molecules and Stoichiometry**

This chapter is categorised into the 3 types of commonly tested questions in examination.

**1. Determine the Molecular Formula of Gaseous Hydrocarbon through Combustion with Excess Oxygen Gas**

General combustion equation:  $C_xH_y + O_2 \rightarrow xCO_2 + \frac{y}{2}H_2O$

The analysis involves 2 steps:

**Step 1:** Combustion using excess  $O_2$ .  $C_xH_y$  reacts with excess  $O_2$  to produce  $CO_2$  and  $H_2O$ . Excess volume of  $O_2$  is measured.

**Step 2:** Pass the gas through excess  $NaOH(aq)$ .  $CO_2$  is reacted away by  $NaOH$  formed contraction in volume. Unreacted  $O_2$  is measured.

Excess volume of  $O_2$  = volume of  $O_2$  reacted + volume of  $O_2$  unreacted

Contraction in volume = volume of  $CO_2$  reacted + volume of  $H_2O$  formed

Volume of  $CO_2$  formed = contraction in volume (after passing remaining gases through alkali)

For contraction in volume (after combustion):  $V_{CO_2} + V_{H_2O} = V_{CO_2} + V_{H_2O}$

For contraction in volume (after combustion):  $V_{CO_2} + V_{H_2O} = V_{CO_2} + V_{H_2O}$

**Strategies**

To deduce the molecular formula of the hydrocarbon, follow these steps:

- Calculate the volume of  $CO_2$  formed and the volume of  $O_2$  reacted using the following:
  - Volume of  $CO_2$  formed = contraction in volume (after passing remaining gases through alkali)
  - For contraction in volume (after combustion):  $V_{CO_2} + V_{H_2O} = V_{CO_2} + V_{H_2O}$
- Equate volume ratio of hydrocarbon:  $CO_2$  formed to the coefficient of hydrocarbon:  $CO_2$ . Example: Volume of hydrocarbon = 1, Volume of  $CO_2$  reacted = 1. Solve for x.
- Equate volume ratio of hydrocarbon:  $O_2$  reacted to coefficient of hydrocarbon:  $O_2$ . Example: Volume of hydrocarbon = 1, Volume of  $O_2$  reacted = 1. Solve for y.

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## Easy-to-follow Strategies

Strategies are provided in a step-by-step manner.

**Test Yourself**

28 cm<sup>3</sup> of a gaseous hydrocarbon Z (C<sub>x</sub>H<sub>y</sub>) was exploded with an excess of oxygen. There was a contraction in the volume of 105 cm<sup>3</sup>. When the products were treated with excess potassium hydroxide solution, there was a further contraction of 150 cm<sup>3</sup>. All volumes are measured at r.t.p.

Deduce the molecular formula of Z.

**Solving the strategy**

- Calculate the volume of  $CO_2$  formed and volume of  $O_2$  reacted.
- Solve for x.
- Solve for y.

**Suggested solution**

28 cm<sup>3</sup> of Z and an excess of  $O_2$  were exploded. In  $CO_2$  will be absorbed.

Second contraction: Volume of  $CO_2$  produced = 105 cm<sup>3</sup>

First contraction:  $V_{CO_2} + V_{H_2O} = V_{CO_2} + V_{H_2O} = 105$  cm<sup>3</sup>

→ Volume of  $O_2$  reacted = 105 - 30 = 75 cm<sup>3</sup>

All volumes are measured at r.t.p. so we can exclude water in our calculation.

Volume ratio of hydrocarbon:  $CO_2$  formed = coefficient of hydrocarbon:  $CO_2$  formed

Example: Volume of hydrocarbon = 1, Volume of  $CO_2$  reacted = 1

$\frac{28}{105} = \frac{1}{1}$

→ x = 1

Volume ratio hydrocarbon:  $O_2$  reacted = coefficient of hydrocarbon:  $O_2$  reacted

Example: Volume of hydrocarbon = 1, Volume of  $O_2$  reacted = 1

$\frac{28}{75} = \frac{1}{1}$

→ y = 4

Substituting x = 1 and solving the equation y = 4.

∴ Molecular formula of Z is C<sub>1</sub>H<sub>4</sub>.

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## Test Yourself

This book includes Test Yourself sections to ensure that students master each concept in every chapter. Suggested answers are provided as well.

**Strategies for Effective Revision**

**B. Calculations on Acid-Base Reactions**

Common questions tested for this section:

- Simple acid-base titration
- Back titration
- Acid-carbonate and Acid-hydrogen carbonate titrations

**Definitions**

Relative atomic mass, A<sub>r</sub>: The ratio of the average mass of 1 mole of atoms of the element to  $\frac{1}{12}$  of the mass of 1 mole of <sup>12</sup>C atoms.

A<sub>r</sub>: The ratio of the average mass of an atom of an element to  $\frac{1}{12}$  of the mass of a <sup>12</sup>C atom (no units).

A = Sum of relative isotopic mass × relative abundance

Isotopes: Atoms of the same element that have the same number of protons but different number of neutrons.

Example: <sup>12</sup>C and <sup>13</sup>C are naturally occurring isotopes of carbon.

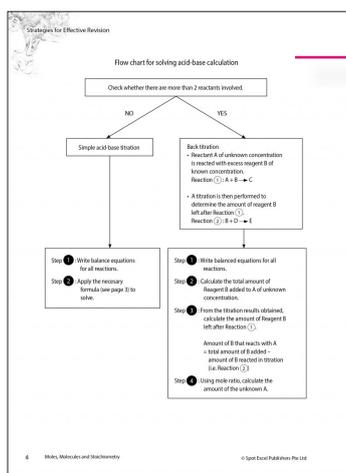
**Must know formula**

- Amount of B (in mol) =  $\frac{\text{mass of solid B (in g)}}{\text{molar mass of B (in g mol}^{-1}\text{)}}$
- Amount of B (in mol) =  $\frac{\text{number of particles in B}}{\text{Avogadro constant (6.02} \times 10^{23}\text{)}}$   
Use as do not fool for mo! Use as do not fool for mo!
- Amount of B (in mol) =  $\frac{\text{volume of gas B (in dm}^3\text{)}}{\text{molar mass of B (in g mol}^{-1}\text{)}}$
- Amount of B (in mol) = concentration of B (in mol dm<sup>-3</sup>) × volume of solution B (in dm<sup>3</sup>)
- Concentration of B (in mol dm<sup>-3</sup>) =  $\frac{\text{concentration of B (in mol dm}^{-3}\text{)}}{\text{molar mass of B (in g mol}^{-1}\text{)}}$
- Concentration of A in diluted solution = concentration of A in original solution × dilution factor  
= concentration of A in original solution ×  $\frac{\text{volume of original solution with solute}}{\text{total volume of diluted solution}}$

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## Must-know Formula

Important formulas are highlighted for easy reference.



## Flow Charts

Flow charts provided for easy revision.

## Chapter Summaries

Each chapter ends with a chapter summary for the students to fill in. This acts to test the students' knowledge before they move on to new material.

**CHAPTER SUMMARY**

**A. PREDICTING THE PRODUCTS FORMED AT THE RESPECTIVE ELECTRODES AND WRITING THE HALF-EQUATIONS**

Strategies

- \_\_\_\_\_
- \_\_\_\_\_

**B. CALCULATIONS ON QUANTITATIVE ELECTROLYSIS**

Application of  $Q = I \times t$  and  $Q = n_e \times F$

Must-know formula

Determination of the Oxidation Number of a metal, M

Must-know formula

\_\_\_\_\_

**C. INDUSTRIAL APPLICATIONS OF ELECTROLYTIC CELL**

Strategies

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

Anodising of aluminium

\_\_\_\_\_

Purification of copper

\_\_\_\_\_

Electrolysis of brine

\_\_\_\_\_

Electroplating

\_\_\_\_\_

Note: If there is insufficient writing space, please use a separate sheet of paper for this.

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# EXPLAIN THAT!



## GCE A-LEVEL H2 CHEMISTRY

MUST-KNOW EXPLANATION QUESTIONS TO REINFORCE LEARNING  
PRECISE ANSWER PHRASINGS THAT EXAMINERS GIVE MARKS FOR  
INTEGRATE ANSWERING TECHNIQUES WITH CONTENT KNOWLEDGE

DR AKHILA JAYARAMAN PhD (NUS)

### H2 Chemistry

ISBN: 9789814761994

Explain That! H2 Chemistry is a comprehensive guide designed to help students master the skill of answering qualitative questions. It comprises a well-curated selection of questions which covers a variety of key ideas and concepts. The questions have been summarised, distilled and refined from over hundreds of exam papers, spanning different schools, national and international examination papers.

This book trains students to construct their explanations using examiner-style phrasing, giving them greater confidence before and during examinations.

#### 104 Explain why alkanes are unreactive.

Since C and H have similar electronegativities, the C-H bond is non-polar. Since alkanes do not have electron-rich or electron-deficient sites and are non-polar, they are unreactive to attack by nucleophiles or electrophiles. Also, C-C and C-H are strong covalent bonds that are difficult to break under normal conditions.

#### 105 Explain why most free radical reactions are considered as chain reactions.

A free radical reacts in one or more chain propagation steps to form another free radical, which allows the reaction to continue.

#### 106 Explain why the reaction of ethane with bromine is a free radical substitution.

Homolytic fission of the Br-Br bond produces free radicals. Since the Br· free radicals replace atoms in ethane, the reaction is a free radical substitution.

#### 107 Explain why only a flash of ultraviolet light is needed to initiate the reaction of alkanes with halogens.

The chain reaction is self-sustaining as the free radical is regenerated in the propagation step. Only a flash of ultraviolet light is needed to produce some free radicals to initiate the reaction. Prolonged radiation would cause an explosion as too many reactive radicals are produced.

#### 108 Calcium oxalate ( $\text{CaC}_2\text{O}_4$ ) found in certain foods is often considered as the cause of kidney stones. Using relevant data from the data booklet, explain whether magnesium oxalate or calcium oxalate decomposes at a lower temperature.

The  $\text{Mg}^{2+}$  ion (0.065 nm) has a smaller ionic radius than the  $\text{Ca}^{2+}$  ion (0.099 nm). The  $\text{Mg}^{2+}$  ion has a higher charge density, and hence a greater polarisation power than the  $\text{Ca}^{2+}$  ion. Therefore, the  $\text{Mg}^{2+}$  ion polarises the electron cloud of the  $\text{C}_2\text{O}_4^{2-}$  ion to a greater extent compared to the  $\text{Ca}^{2+}$  ion. The C-O bonds are weakened to a greater extent, i.e. magnesium oxalate is less thermally stable and decomposes at a lower temperature compared to calcium oxalate.

#### 109 Explain why lithium carbonate decomposes but other group 1 carbonates do not decompose.

Lithium shares a diagonal relationship with magnesium. The charge density of the  $\text{Li}^+$  ion is high enough to polarise the electron cloud of the  $\text{CO}_3^{2-}$  ion and weaken the C-O bonds.

For other group 1 carbonates, the cation has a lower charge density due to a larger ionic radius and is unable to distort the electron cloud of the  $\text{CO}_3^{2-}$  ion, hence decomposition does not occur.

## Reference Answers

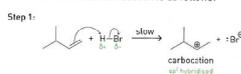
A collection of common must-know qualitative questions accompanied by concise reference answers with examiner-style phrasing.

## Diagrams

Clear diagrams for better visualisation and understanding.

#### 110 When 3-methylbut-1-ene undergoes an electrophilic addition reaction with $\text{HBr(g)}$ at room temperature, the product formed does not show any optical activity. Explain why this is so using a mechanism.

The mechanism for the reaction is as follows:



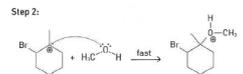
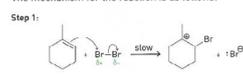
In the carbocation intermediate formed in step 1, the carbon atom is  $\text{sp}^2$  hybridised and the geometry of the carbon atom is trigonal planar. In the fast step, the nucleophile attacks the carbocation from both above and below the plane with equal probability, giving rise to an equimolar (1 : 1) mixture of two enantiomers, i.e. a racemic mixture is obtained and no optical activity is observed.

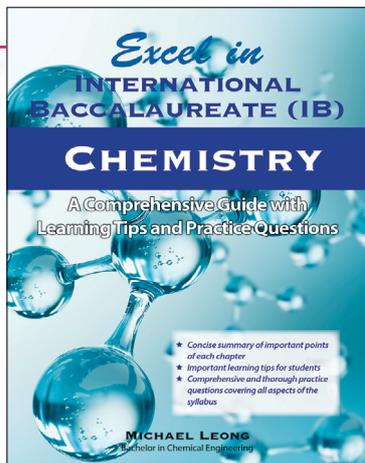
#### 109 Predict the major product formed when compound A is reacted with a solution of bromine in methanol.



Using the curly arrow notation, show the mechanism for the reaction.

The mechanism for the reaction is as follows:





**Excel in International Baccalaureate (IB) Chemistry**  
**A Comprehensive Guide with Learning Tips and Practice Questions**  
 ISBN: 9789814996679

Excel in IB Chemistry is a revision guide and an assessment book that caters to the latest IB syllabus. All important points are short and concise to assist students to remember key points. The most important feature of this book is the "Learning Tips", where common mistakes and important notes are highlighted for students. This book contains 11 chapters of the core topics in IB, comprising SL and HL materials, which includes relevant and application-based IB Chemistry practice questions. This is definitely a useful volume to make up for the lack of practice questions from past-year IB Papers.

Excel in Chemistry

**Learning Tip**

- The first thing to do is to write out the balanced chemical equation to determine the mole ratio of the substances present. If the equation is not already given.
- If information regarding 2 or more reactants (mass, concentration, volume etc.) are given in the question, it is mandatory to determine which is the limiting reactant.
- When the calculation involves gases only, at the same temperature and pressure, the volume ratio of the gases involved is the same as their mole ratio.

**To Determine the Percentage by Mass of an Element in a Compound when not given the masses**

Assuming presence of 1 mole of substance,

$$\% \text{ by Mass of X in Compound} = \frac{\text{Total no. of Element X in Compound} \times \text{Molar Mass of Element X}}{\text{Molar Mass of Compound}} \times 100$$

**To Determine the Empirical Formula of an Unknown Compound**

Element	Mass or % by mass — (1)
A of element — (2)	
% of moles — (3) = (2) / (1)	
Mole ratio (to be smallest)	

**Learning Tip**

Note that when the mole ratio contains decimals > 0.20 and < 0.80, students should round down or round up the values respectively. Instead, a common mistake is to allow the ratios to be closer to whole numbers should be determined.

**To Determine the Limiting Reagent in a Given Question**

Method 1 (applicable for MCQ questions, not for structured questions)

- Write out a balanced chemical equation of the reaction if it is not given.
- Then use the information provided by the question to calculate the respective moles of reactants.
- Divide the number of moles of reactants calculated above by the respective balanced chemical equation. The reactant that gives the smallest value reagent.

Excel in Chemistry

**Learning Tip**

To effectively understand and explain the various trends and exceptions in ionization energies (I<sub>1</sub> to I<sub>6</sub>) of selected elements, it is necessary to write out the electronic configuration of the elements involved, so as to compare the differences in energy level, sub-shell and/or orbitals in which the electrons are removed in this way, the correct explanation can be determined.

E.g. Who is asked to compare the first ionization energies of Be and Na, as both the elements are not in the same group nor the same period, students may not be able to apply the trends learnt directly. However, by writing out their electronic configuration:

Be: 1s<sup>2</sup>2s<sup>2</sup>    Na: 1s<sup>2</sup>2s<sup>2</sup>2p<sup>6</sup>3s<sup>1</sup>

It is observed that the electron removed in Na is in the third energy level while the electron removed in Be is in the second energy level, thus the electron to be removed in Na experiences higher shielding effect and hence lower effective nuclear charge. Hence Na has a lower first ionization energy than Be.

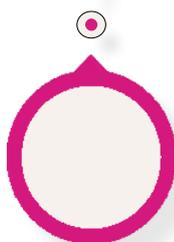
**Practice Questions**

**Multiple Choice Questions (5k)**

- What is the difference between the particles <sup>23</sup>X and <sup>23</sup>Y?
  - Y has more neutrons than X.
  - X has more protons than Y.
  - Y has more protons and electrons than X.
  - X has more protons and electrons than Y.
- Which of the following shows the correct number of sub-atomic particles present in <sup>19</sup>F?
 

Protons	Neutrons	Electrons
A. 9	10	9
B. 82	15	80
C. 95	82	95
D. 82	47	82
- Which of the following shows the correct number of sub-atomic particles present in <sup>12</sup>C?
 

Protons	Neutrons	Electrons
A. 24	29	24
B. 53	24	53
C. 24	29	21
D. 53	24	50



## Learning Tips

Common mistakes and important tips are highlighted so that students will know what to take note of during revision.

## Comprehensive Questions

Practice and structured questions included for ample revision.



Excel in Chemistry

**Practice Questions**

**Multiple Choice Questions**

- What is the total amount, in moles, of hydrogen atoms present in 0.5 moles of benzamide, C<sub>6</sub>H<sub>7</sub>ONH<sub>2</sub>?
  - 1.5 × 10<sup>24</sup>
  - 2.1 × 10<sup>24</sup>
  - 2.5
  - 3.5
- Determine the number of moles of carbon atoms present in 0.5 moles of propyl benzoate, C<sub>6</sub>H<sub>5</sub>COOC<sub>3</sub>H<sub>7</sub>.
  - 4.5
  - 5.0
  - 2.7 × 10<sup>24</sup>
  - 3.0 × 10<sup>24</sup>
- Determine the total number of ions present in 0.2 moles of NiCl<sub>2</sub>.
  - 1.2 × 10<sup>24</sup>
  - 6.0 × 10<sup>23</sup>
  - 6.2
  - 1.0
- 8.7 g of K<sub>2</sub>SO<sub>4</sub> (M<sub>r</sub> = 174) is dissolved in water to form a 250 cm<sup>3</sup> solution. What is the concentration of the resulting solution in mol dm<sup>-3</sup>?
  - 0.05
  - 0.10
  - 0.20
  - 0.50
- Determine the mass of MgCl<sub>2</sub> (M<sub>r</sub> = 95) required to prepare a 500 cm<sup>3</sup> solution with concentration of 0.80 mol dm<sup>-3</sup>.
  - 39.2 g
  - 38.0 g
  - 46.4 g
  - 55.8 g
- What is the mass, in g, of CO<sub>2</sub> gas formed when 0.5 moles of NaHCO<sub>3</sub> reacts with 0.8 moles of HNO<sub>3</sub> according to the following equation?
 
$$\text{NaHCO}_3 + \text{HNO}_3 \rightarrow \text{NaNO}_3 + \text{H}_2\text{O} + \text{CO}_2$$
  - 17.6
  - 22.0
  - 36.4
  - 35.2
- What is the volume of hydrogen gas, in cm<sup>3</sup>, formed when 1.2 g of magnesium metal reacts with 200 cm<sup>3</sup> of 1.0 mol dm<sup>-3</sup> H<sub>2</sub>SO<sub>4</sub> at room temperature and pressure?
 
$$\text{Mg} + \text{2H}_2\text{SO}_4 \rightarrow \text{MgSO}_4 + \text{H}_2$$
  - 1200
  - 1500
  - 1800
  - 2400

Structuray

30. Digestion tablets usually contain calcium carbonate. A 5.0 g tablet is dissolved in 50 cm<sup>3</sup> of 1.0 mol dm<sup>-3</sup> HCl. The excess unreacted acid requires 20 cm<sup>3</sup> of 0.50 mol dm<sup>-3</sup> Na<sub>2</sub>CO<sub>3</sub> to completely neutralise it. Given that the calcium carbonate in digestion tablet reacts with hydrochloric acid according to the following equation:

$$\text{CaCO}_3 + \text{2HCl} \rightarrow \text{CaCl}_2 + \text{H}_2\text{O} + \text{CO}_2$$

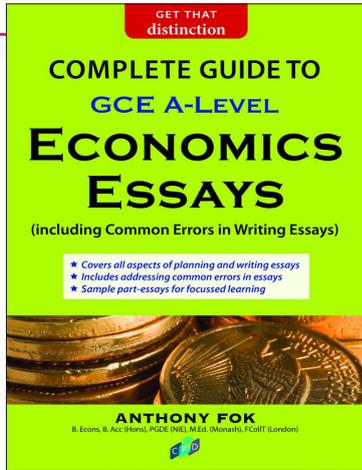
Determine the percentage by mass of calcium carbonate in the tablet.

- 40%
- 50%
- 60%
- 70%

**Structured Questions**

- Y is an organic compound containing only C, H and O. When 0.084 g of sample of Y was subjected to complete combustion, 2.24 g of CO<sub>2</sub> and 0.857 g of H<sub>2</sub>O were formed. What is the empirical formula of Y?
- The formula of a complex salt Q is [Cu(NH<sub>4</sub>)<sub>2</sub>(OH)<sub>2</sub>SO<sub>4</sub>]. Further analysis produced the following composition by mass at 24.74% N, 14.1% C, 20.36% H. Calculate the value of x and hence determine the percentage by mass of S in the salt.
- A 6.50 dm<sup>3</sup> sample of argon at a pressure of 400 kPa and 2.50 dm<sup>3</sup> sample of neon at a pressure of 600 kPa are introduced into a 5.00 dm<sup>3</sup> vessel under constant temperature. What is the final pressure in the vessel?
- A large portion of the copper produced in the world is obtained by the smelting of chalcopyrite, which is an iron-containing mineral with the molecular formula of CuFeS<sub>2</sub>. The smelting of chalcopyrite can be represented by the following equation:
 
$$\text{CuFeS}_2 + \text{O}_2 \rightarrow \text{Cu} + \text{FeO} + \text{SO}_2 + \text{SO}_3$$
  - Calculate the volume of sulphur dioxide gas, in dm<sup>3</sup>, released into the atmosphere at r.t.p. if 1 tonne of the rock sample is smelted. It is found that the rock contains 80% by mass of chalcopyrite. (1 tonne = 1000 kg)
  - Hence, determine the volume of air, in dm<sup>3</sup>, required to carry out this smelting process to completion, assuming the air contains 21% by volume of oxygen at r.t.p.

## Essay Questions



**Complete Guide to Economics Essays**  
ISBN: 9789811130830

This Complete Guide to Economics Essays book is specially written to cater to the needs of students sitting for the Higher 1 and Higher 2 GCE A-Level Economics examination. This book will teach students how to write a good introduction, the topic sentences in each paragraph, draw quality Economics diagrams and write evaluative comments in the conclusions. Numerous examples have been written to better help students grasp the skills required to score a distinction in Economics essay writing. A section on common errors in writing essays is also included to help students avoid such errors.

### Sample Essay Questions & Answers

Teach students how to write good essay answers.

**UNIT 2 - The Market**

Sample Diagrams and Worded Explanations

**Figure 2.1 Market for Cars**

With reference to Figure 2.1, a decrease in income levels due to the recession will shift the demand (DD) curve for cars leftwards from DD<sub>1</sub> to DD<sub>2</sub>. This is because cars are viewed as a normal good. At the original price level P<sub>1</sub>, there is now a surplus. This exerts a downward pressure on the price, and hence price of cars falls. When a new equilibrium is reached at P<sub>2</sub>, the equilibrium price has fallen from P<sub>1</sub> to P<sub>2</sub> and the equilibrium quantity has fallen from Q<sub>1</sub> to Q<sub>2</sub>. Hence, there would be lower sales and a decrease in price of cars.

**Figure 2.2 Oligopoly-Kinked Demand Curve**

### Sample Diagrams & Worded Explanations

Diagrams with explanations are provided to guide students on how to draw quality diagrams and how to present them in answers.

**UNIT 3 - Sample Essay Questions (By Topic)**

For example, prices of input ingredients such as vegetables and meat, fluctuate frequently for hawker stalls. The MPC model suggests that when marginal cost changes, prices should change accordingly. However, hawker food prices have been fairly stable despite frequent fluctuations in cost of input ingredients. The food sellers prefer to absorb the costs, rather than raise the prices, and would only do otherwise if given no other choice. This rigidity in price is better explained using the Kinked Demand Curve Theory as explained for oligopolistic firms, which assumes hawkers do consider the possible reactions of nearby stalls when deciding whether to adjust their prices.

**INTRODUCTION**

In conclusion, the market structure models are, to a large extent, useful in explaining the different behaviours of F&B sellers in Singapore. However, due to real world conditions such as government intervention and other non-economic considerations, it is not possible to completely categorise any industry as belonging to a particular market structure. Due to the slight differences in their products and consumers' constantly changing tastes and preferences, every firm in the same industry will have different degrees of market power. As such, firms would seldom follow exactly their theoretical behaviours, should they be classified according to a market structure.

**MARKET FAILURE**

**SAMPLES**

Discuss whether it is possible to achieve efficiency in resource allocation in a free market without government intervention.

**INTRODUCTION**

The need to allocate resources arises from the problem of scarcity. A free market uses the price mechanism to allocate resources to their various uses (i.e. to decide what and how much to produce, how to produce) and as a rationing device (i.e. to decide for whom to produce). The price mechanism will only allow efficiency in resource allocation if the conditions of a perfect market are met, or other words, if there is no source of market failure. Otherwise, some form of government intervention is necessary to achieve efficiency in resource allocation.

**CONC**

Explain what is meant by efficiency in resource allocation – allocative efficiency and productive efficiency of society first.

Allocative efficiency is a situation in which the limited resources of a country are allocated in accordance with the wishes of consumers. This means that an "optimal mix" of goods and services is produced such that no reallocation of resources will be able to make someone better off without making someone else worse off. Using the marginalist principle, this

**UNIT 3 - Sample Essay Questions (By Topic)**

**Figure 2 Revenue and cost structure of a firm**

In this imperfect knowledge environment, resources may be wasted on advertisements, which may in turn distort demand, with consumers purchasing goods and services that they may not necessarily require. Therefore, under imperfect markets, firms are able to distort prices, and if left entirely to the price mechanism, it may lead to a misallocation of resources.

Hence, the government will need to intervene in the form of competition laws, such as prohibiting agreements or practices that restrict free trade and competition between business entities, banning abusive behaviour by a firm dominating a market, or anti-competitive practices that tend to lead to such a dominant position. The government can supervise the mergers and acquisitions of large corporations, including some joint ventures. Alternatively, the government can force firms to adopt MC pricing or AC pricing, or to increase output levels closer to the allocatively efficient level. However, such laws are difficult to enforce and large funds are needed to employ adequate manpower to implement such regulations. If the government is suffering from a fiscal budget deficit, these policies may not be feasible.

**CONCLUSION**

In conclusion, the price mechanism can, to a large extent, help to allocate resources for most types of goods. However, in any economy, it is common that there will be some markets in which allocative efficiency is not attained, such as in the above cases of public goods, goods that generate externalities and imperfect markets. In these markets, there is a need for government intervention to correct the market failures and address the limitations of the price mechanism in order to achieve a more efficient allocation of resources. In government failure may occur due to imperfectness and it is up to the market failures may not be completely eliminated. Nevertheless, it will still be achieved and a more efficient outcome will be attained.

### Errors & Corrections

Common errors are identified so students can avoid them.

**COMPLETE GUIDE TO A-LEVEL ECONOMICS ESSAYS**

**ERR** Create market power allows for a firm to enjoy supernormal profits in the long run as it can restrict its output and charge high prices for its goods and services.

**CONCOR** The presence of significant barriers to entry allows for a firm to reap supernormal profits in the long run as the entry of new firms into the industry is hindered, preventing the erosion of the existing firm's supernormal profits.

**ERR** Marginal cost pricing will result in subnormal profits.

**CONCOR** Losses will be incurred only in natural monopolies. However, in other monopolies, the average cost curve determines whether marginal cost pricing does indeed result in subnormal profits or not.

**ERR** A firm should shut down once it yields subnormal profits (when total cost exceeds total revenue).

**CONCOR** When a firm faces subnormal profits in the short run, its decision to shut down should be based on its ability to cover the total variable costs with its total revenue. (Note that this is the same regarding its ability to cover the average variable cost with its average revenue.) Should the firm earn revenue exceeding the total variable cost, it can be used to cover a portion of the total fixed cost.

**CONCOR** Nevertheless, a firm may decide to shut down if it continues to make subnormal profits in the long run. This is because in the long run, all production costs are variable. Hence, resources could instead be directed to other more profitable industries.

**ERR** All firms would always want to maximise the prices of their goods and services in order to maximise their profits.

**CONCOR** In some cases, a firm might want to lower their prices to undercut its competitors, its engagement in price wars could potentially help it gain a market share. Nonetheless, once a larger market share is gained in the future, the firm would likely raise prices to maximise its profits.

**EXPLANATION** Firms have many aims, although we often assume that they prioritise profits.

**ERR** The reduction of a inefficiency helps to lower only average costs, helping to improve profits.

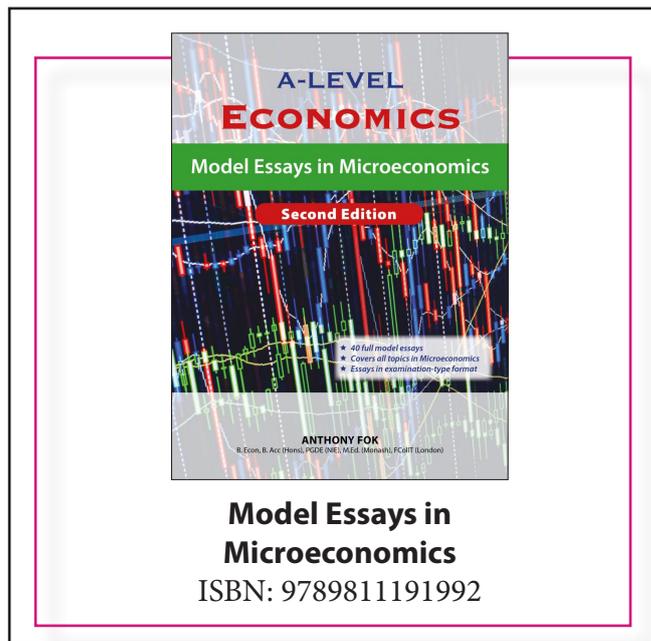
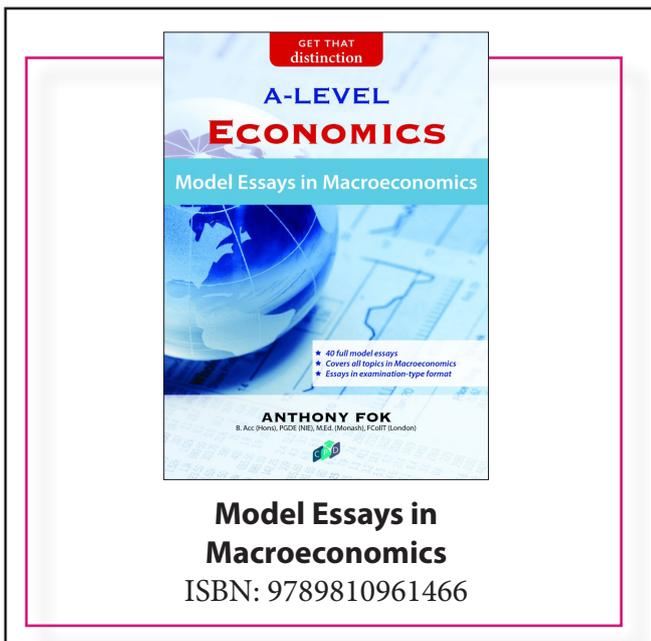
**CONCOR** The reduction of a inefficiency also helps to lower marginal costs apart from average costs.

**ERR** When a firm faces an increase in rent or other overheads, total cost, average cost and marginal cost increase.

**CONCOR** When a firm faces an increase in rent or other overheads, only total cost and average cost increase. Rent and other overheads are considered fixed costs. They do not increase as the firm increases its output level. Hence, there is no change in marginal cost as such fixed costs increase. Marginal cost only increases when variable costs increase such as in the case of increased factor prices and such.

In order to do well in the GCE A-Level Economics examination today, students must display evidence of higher-order thinking skills (Application, Analysis, Synthesis and Evaluation) through the essays that they write. Students must be able to explain current economic events in terms of the relevant economic principles that they have learnt. They also have to integrate the different topics learnt to construct a coherent line of argument and reconcile conflicting ideas. In addition, they have to evaluate the effectiveness and limitations of the various economic policies from their lecture notes. Finally, the 'flow' of their ideas must be logical, clear and concise. Students should also be aware that there are many ways of interpreting and answering an Economics essay question.

The model essays in these 2 books serve as a guide to aid their revision on the types of essays they can present to help them score well in the examination.



**UNIT 1**

**NATIONAL INCOME ACCOUNT**

UNIT 1 - National Income Accounting

investment (I) on capital goods falls, although the current material S&P improves, the future S&P may fall due to a fall in investment on capital goods, as such goods help to increase the productivity level of the economy. Similarly, if the increase in real GDP per capita is due to an increase in an investment of capital goods while the consumption of consumer goods falls, although the current S&P falls, the future S&P will increase.

Also, the increase in real GDP per capita may lead to an increase in pollution levels as firms step up their production. This occurs if a firm does not account for the negative externalities of its production. Furthermore, if workers have to work longer hours to increase production, their rate of leisure activities will decrease. The increase in pollution levels and fall in leisure hours thus cause the non-material S&P to decrease. In addition, if the quality of the consumer goods produced falls, the non-material S&P will fall as well.

Lastly, the increase in real GDP per capita may have largely benefited the rich only, as this does not take the income inequality gap in account. The rich may experience a large increase in their income while the poor may have a slower rise or even a fall in their income. This increases the income inequality of the country. Hence, not all individuals experience a higher S&P due to the increase in real GDP per capita. However, this can be mitigated if the increase in real GDP per capita is spent on welfare benefits for the poor.

In conclusion, the increase in real GDP per capita can only show a possible increase in the material S&P of a country. Since the S&P includes both material and non-material aspects of living, other factors have to be considered if the S&P were to be determined. Other composite indicators, such as the Human Development Index (HDI), which includes the education level and life expectancy of the population, and the Measure of Economic Welfare (MEW), which accounts for pollution and leisure hours, can be used to determine the S&P more accurately.

1. (a) Why does a rise in net exports result in a more than proportionate increase in the real GDP? [10]

(b) Is the level of real GDP per capita rising, the population's living standard rising? [10]

**Model Answer >**

(a) An increase in net exports causes the aggregate expenditure (AE) of an economy to rise. This results in a more than proportionate increase in the real GDP. This is due to the multiplier effect. An increase in the net export leads to an increase in export revenue (EX) and a fall in import expenditure (IM). The rationale of the multiplier is based on the proposition that the expenditure and income generated expenditure. Assuming that the economy is a 4:4 ratio of open economy, the increase in (EX - IM) is \$100 million and the final consumer domestically produced goods (MPG) is \$400 million.

An initial increase in (EX - IM) of \$100 million creates \$100 million worth of new demand. The firms and workers on which this then spend \$400 million on domestically produced goods. As MPG (EX - IM) million is withdrawn from the circular flow of income in the economy, a payment of taxes and expenditure on imported goods.

The \$400 million increase in consumption creates \$400 million worth output. The firms and workers on which this \$400 million is spent then

2. (a) Explain how a contractionary fiscal policy may affect the national income of an economy. [10]

(b) 'A country with a lower real GDP will always have a lower standard of living than a country with a higher real GDP'. How far do you agree with this statement? [15]

**Model Answer >**

(a) National income refers to the income generated from the production of goods and services within a country over a specific period of time, usually a year. A government may adopt a contractionary fiscal policy to achieve its macroeconomic goals.

By adopting a contractionary fiscal policy, the government may decrease government expenditure (G) on final goods and services such as building infrastructure and education. The government may also increase taxes. An increase in personal income tax decreases consumers' disposable income. The purchasing power of consumers falls and hence they are less able to buy consumer goods to enjoy. This consumption (C) decreases. As a result, corporate tax decreases after-tax profits, giving firms less funds for investments (I). Hence investment decreases. As C and I are components of aggregate expenditure (AE), decreases in C and I lead to a decrease in AE.

With a decrease in AE, there is a more than proportionate decrease in the national income due to the multiplier effect. The rationale of the multiplier is based on the proposition that

**FIGURE 1**  
The multiplier effect

**1 SCARCITY AND OPPORTUNITY COST**

A-Level Economics Model Essays in Microeconomics

information due to misleading advertisements that exaggerate the benefits of a product. Such imperfect information thus leads to over- or under-estimation of private benefits in consuming a good. This ultimately translates to an over- or under-consumption of the good leading to allocative inefficiency.

Consider a good of which consumers may have imperfect information, say a product with misleading advertisements that exaggerate the benefits of consuming the good. Due to misleading information, consumers may overestimate the private benefits of consuming the good. In other words, consumers' misperceived marginal private benefit (MPB) would be high than the actual private benefit, as shown in Figure 2.

Referring to Figure 2, the market output is  $Q_0$ , given by the intersection of MPB and MPS. However, the socially optimal output is  $Q_1$ , where MSB = MSC, as society's welfare is maximised at this output level. Since  $Q_0 > Q_1$ , there is an overconsumption of the good due to misleading information. The welfare loss to society is given by Area ABC. Thus, there is allocative inefficiency in the market.

Lastly, Monopsony market structure such as StarHub in the case of cable TV in Singapore. Assuming that the firm's objective is to profit maximise, the monopoly will choose to produce an output  $Q_0$  (refer to Figure 3) where marginal revenue = marginal cost and charges at  $P_0$ . However, the socially optimal level of output is  $Q_1$  where MSB = MSC, as society's welfare is maximised at this level of output. This indicates that the value consumers place on an additional unit of good exceeds the additional cost of producing it. Allocative inefficiency has also resulted in a loss of societal welfare or deadweight loss, indicated by area ABC. To maximise social welfare, the monopoly should have reallocated resources from other uses because for each of the units between  $Q_0$  and  $Q_1$ , the additional benefit it passes the additional cost, hence the society will be better off producing those units.

Based on the above arguments, under certain assumptions, the free market can be the most efficient way of allocating resources, but in the real world, it is impossible for all assumptions to be true. Hence the government often needs to intervene to ensure allocative efficiency to maximise societal welfare.

1. (a) Explain the basic economic problem of scarcity. [10]

(b) Discuss whether the free market is the best way to solve the economic problem. [15]

**Model Answer >**

(a) Scarcity is defined as a situation in which resources are insufficient to satisfy unlimited wants. Scarcity is the most fundamental of all economic problems. In the study of scarcity, many wants are unlimited. Man is never at a level of consumption, and he always desires more. However, the world's resources are the factors of production of land, labour, capital and are only present in finite amount in countries.

Scarcity forces us to choose, thus there is a cost involved in every preferred or opportunity cost and is defined as the next best alternative particular unit.

The production possibility curve (PPC) illustrates the scarcity and PPC shows all the possible combinations of two goods that a society 'produced' time period with all its resources fully and efficiently employed. All points on the PPC show the combination of two goods that can be produced with the given resources. It is used to produce a larger quantity necessary to give up production of the other good. With reference to Figure 3, the producer can produce 100 units of X and 100 units of Y, or a product 200 units of Y with 0 units of X. He may choose to produce at point C or D. There is increasing opportunity cost as it is necessary to give up to produce an additional unit of the other good due to resources being

**FIGURE 1**

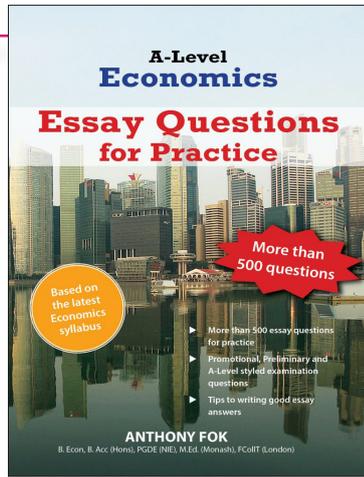
**FIGURE 3**

## Diagrams

Detailed diagrams provided to supplement the essays.

## Model Essays

40 full model essays per book for students to familiarise themselves with examination-type questions and answers.



**Essay Questions for Practice**  
ISBN: 9789811191978

Economics essay writing requires a strong grasp of economic concepts and more practice in writing points in a clear manner so that students can get their points across to the marker.

This book aims to expose students to different types of questions in Economics essay writing.



**Summary**  
Tips on How to Score in Economics

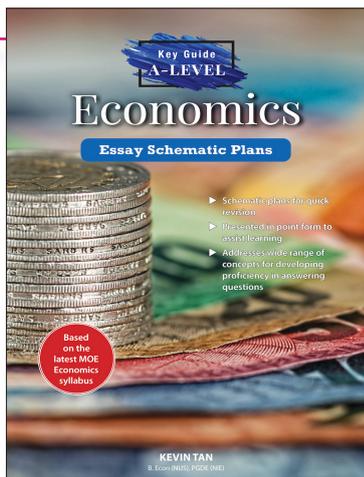
- Students must have knowledge of:
  - specialised economic terminology and expressions;
  - specific facts relating to economics and institutions;
  - ways of presenting economic information and data;
  - definitions of main concepts; formulae and economic theories.
- Students must be able to:
  - analyse and dissect the question correctly;
  - know the meaning of the cue words such as 'suggest', 'explain', 'discuss', etc.;
  - select and apply the economics theories to problems or context;
  - bring in evaluative element into essays by weighing the relative significance/importance of the factors, recognise alternative explanations or identify unstated assumptions, etc.;
  - write neatly, draw accurate and properly labelled diagrams, which should also be explained in words.
- A well-written economics essay shows:
  - excellent understanding of the requirements of the question;
  - rigour in economic analysis and development;
  - outstanding attempts at contextualisation with a variety of relevant examples.

### Tips for Scoring

Summary tips on how to score in Economics for effective answering.

### Comprehensive Topics

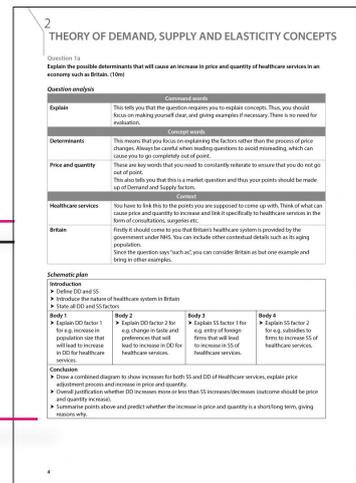
More than 500 essay questions that cover all key Economics topics needed for the A-Level exams.



**Essay Schematic Plans**  
ISBN: 9789811176197

This book is for students who need a quick revision for essay questions. Based on the latest MOE Economics syllabus, the schematic plans provide answers in point form and short sentences to assist in learning by focusing on main points and helping students in essay planning. A variety of question types address the wide range of concepts needed and answer requirements that questions may seek.

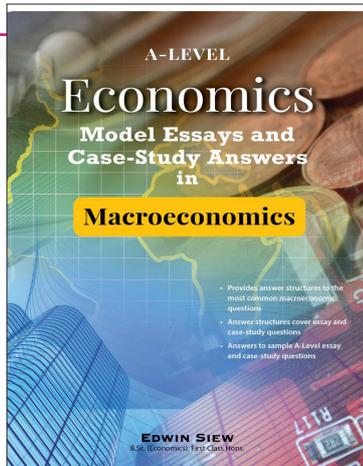
Ultimately, this book aims to help students prepare and develop the proficiency in tackling examination questions.



### Question Analysis

Questions are broken down and analysed for students to learn how to tackle similar questions.

## Case Study Questions



**Model Essays and Case-Study Answers in Macroeconomics**  
 ISBN: 9789811408427

This book seeks to impart exam skills and structures for answering essay and case study questions. From students' feedback, these exam skills and structures are most useful. The examples given are of questions commonly tested in the A-Level and prelim examinations. For essay questions, this book teaches students how to interpret questions and come up with a structure to score L3 marks, specifically, the thesis, anti-thesis and a solid evaluation with relevant examples. The book also addresses common answer structures to the high-level questions which make up most of the marks in both the 30-mark case studies (for H2 students) and 45-mark case studies (for H1 students).

**Unit 3 - Macroeconomic Policies and Goals**

**Exclusion:** Which policy works best in achieving low rate of inflation depends on the nature and state of the economy.

- If it's a small country like Singapore, better to use depreciating exchange rates to achieve low inflation. This is because Singapore depends a lot on the X - M component for growth compared to C & I. Singapore also does not control its interest rate due to the policy preference of giving up interest rates control over free capital mobility and exchange rates.
- If big country like China, India or US, better to use contractionary fiscal policy or monetary policy in the form of interest rates. Since they depend a lot more on C & I for growth.
- Overall, demand-side policies must be complemented by supply-side policies so as to ease the constraint on resources. Reduce demand-pull inflation by expanding the capacity of the economy. i.e. technological investments, skills re-training efforts must be done.

**Question 4**

Discuss the alternate policies which the Singapore government might use to achieve a healthy Balance of Payments (BOP) balance. (15)

**Starter:** The question above is essentially the same. The word 'alternate' can mean 'various'. Students have to think as to which the transmission mechanism and limitations of each of the four policies to achieve a healthy BOP balance. Then, evaluate which is the best policy for Singapore. Since the question specifically states Singapore, answers and examples must be specific to the country.

**Body:**

- Expansionary fiscal policy - Reduce taxes, increase government expenditure
  - Lowering corporate taxes would attract foreign MNCs to invest and set up base here. More foreign capital flow into Singapore and capital account increases. Low personal income taxes attract skilled expats to want to work in Singapore. Since they need to rent apartments for their stay here, this would fuel the demand for foreign investments into real estate in Singapore. As 1% of Singapore's corporate taxes is one of the most competitive in the world and it has successfully attracted foreign MNCs to set up bases here in the 1970s and 80s. Our personal income taxes are also very low as expats do not have to pay social security tax. The increased flow of expats renting apartments here have fuelled large investments by rich Chinese nationals into the private condominiums in Singapore for 2007 to 2012.

### Sample Essay Questions

Sample essays are dissected for easier understanding and to improve writing skills.

### Sample Case Studies

Multiple comprehensive case studies with suggested answers are provided for each topic.

**A-LEVEL ECONOMICS MODEL ESSAYS AND CASE-STUDY ANSWERS IN MACROECONOMICS**

**Case Study 1**

**Economic growth in Singapore and other countries**

**Excerpt 1** Countries with high living standards

When the United Nations released the 2015 rankings of countries based on Human Development Index (HDI), Finland headed the rankings for the 12th below shows the top 15 countries in rank order. (Some countries are not in the list also show the latest World Bank GDP per capita figure for the same or figure for the Gini coefficient.

Rank order according to HDI index	GDP per capita (US\$)	Gini coefficient
1. Finland	61,473	0.267
2. Australia	45,414	0.304
3. Switzerland	60,514	0.287
4. Denmark	46,656	0.289
5. Netherlands	48,458	0.251
6. Germany	47,267	0.271
7. Iceland	54,623	0.340
8. United States (US)	53,836	0.431
9. Canada	44,310	0.320
10. New Zealand	36,981	0.362
11. Singapore	45,210	0.464
12. Hong Kong	56,270	0.538
13. Liechtenstein	89,400	0.361
14. Sweden	46,420	0.250
15. United Kingdom (UK)	41,226	0.325
World Average	15,467	0.394 (estimate)

**Excerpt 2** Contrasting growth performance in New Zealand and Singapore

New Zealand's commodity-rich economy expanded at an annual rate of second quarter of 2016, its fastest rate since 2012. This caps a remarkable year of no recession for the country. Rising exports have more than offset its firm investments, particularly in the mining industry. In the second quarter there was also a pre-election increase in government spending. Nonetheless

**Unit 3 - Macroeconomic Policies and Goals**

**Excerpt 3** Ensuring that growth is more inclusive

As Singapore positions herself for the next phase of economic development, policymakers must make sure that no one is left behind. It has been put in place, such as encouraging workers to improve their incomes throughout their careers. Older, lower-paid workers in particular, whilst not other times, the Singapore government needs to ensure financial sustainability.

**Suggested answer**

(a) (i) The Gini coefficient is used to measure inequality in a population. It is calculated by taking the difference in income between the top 10% and bottom 10% of a population. (ii) GDP per capita: US\$

Question 1(a) With reference to Table 1:

- Explain how the Gini coefficient is calculated.
- Compare the two measures shown for A. Both living standards and the distribution of income. (5)
- With reference to Excerpt 2 and using AD/AS, rising exports have more than offset weaker impacted the New Zealand economy in 2016. (5)
- With reference to Excerpt 2, explain why New Zealand to further reduce interest rates from their recent Singapore central bank announced to the policy for the Singapore dollar. (5)
- Describe the view that increased labour productivity and training is the best way to achieve faster growth for the Singapore dollar. (5)
- Discuss the case for government policy to at least partially offset the adverse consequences of (Total: 45 marks)

**Suggested answer**

(a) (i) The Gini coefficient is used to measure inequality in a population. It is calculated by taking the difference in income between the top 10% and bottom 10% of a population. (ii) GDP per capita: US\$

(b) Short run

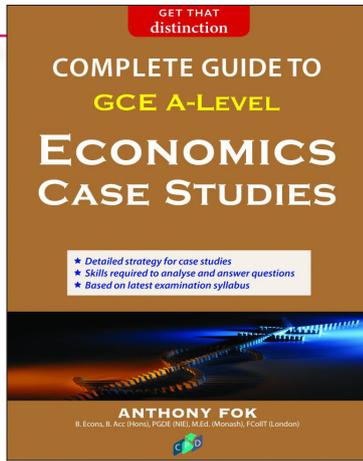
- Increase in exports will offset weakness in firm investments in increasing economic growth and real GDP.
- AD will increase, resulting in decrease of cyclical unemployment.
- Rise in exports from 'boomier export sector' complemented by a 'pre-election rise in government spending during the quarter'.
- Interest rates cut going to increase household consumption further.

Long run

- Lack of firm investments into R&D will keep supply stagnant.
- AS remain stagnant → max economic capacity which New Zealand can reach.
- Resulting in demand-pull inflation.
- New Zealand Bank's 5% of full-employment levels as it has not had a recession in 25 years.
- Confirmed by statement that central bank will increase inflation from 0.24% per annum to a 'medium-term inflation target of 2.5% per annum'.

(c) In New Zealand, firm investments' weakness in investment, in particular in the mining industry and household consumption levels 'consumer demand' that grows relatively slowly, by only 1.3% during the past year' are very low.

Further reducing interest rates from a record low of 1.4% will help to kickstart increase in household consumption and firm investments.



**Complete Guide to Case Studies**  
ISBN: 9789811133978

subject, the author has designed this book to be easy to follow and to facilitate understanding of the case studies.

A list of key words is also included to help students analyse questions in case studies.

In the case studies section of the GCE A-Level Economics examination today, the challenge is in how they demand a variety of skills from the students, and within a short period of time. Students need to process a whole mass of information from the case studies, read and comprehend the questions, and respond to them accurately and adequately. Students thus have to develop all these skills, and be comfortable with deploying them during a timed trial – the examination.

This guide is thus designed to help students develop the necessary skills and practise them. Knowing what to do is most important, so that students do not practise mindlessly, which may not only be unhelpful but counter-productive. Based on his many years of experience teaching students the

## Tips & Examples

Help students understand what different types of questions are looking for, and guide them to answer questions more effectively.

## Structure for Answers

Recommended structures are included for students to use as a template when answering questions.

**Tip** Start each separate point on a NEW paragraph. This will make it easier for the marker to identify your points. You are also helping yourself to make sure that you are not repeating your points.

For explanation questions that require you to draw a diagram, diagrams are usually awarded 2 marks. You should always state your points first before drawing a diagram. After drawing a diagram, you should ALWAYS explain your diagram because a diagram without an explanation will not be awarded any marks.

**Structure for explanation questions + diagram**

- Point 1 will be \_\_\_\_\_  
My explanation for Point 1: \_\_\_\_\_
- Point 2 will be \_\_\_\_\_  
My explanation for Point 2: \_\_\_\_\_  
(Draw diagram here)

DIAGRAM

- My explanation for the diagram I have drawn: \_\_\_\_\_
- Evaluation points: \_\_\_\_\_ [only if the question demands it]

**Tip** Your first paragraph should follow the thesis/anti-thesis stated in the question.

UNIT 2  
**THE DIFFERENCE BETWEEN HIGHER-ORDER AND LOWER-ORDER THINKING SKILL SETS**

**2.1 RESPONDING TO KEY WORDS AND KEY CONCEPTS**

Why are key words and key concepts important?

- Key words and concepts guide you in providing an accurate scope of your answer.
- Key words and concepts are often marking points (where you should not be losing marks).
- Key words and concepts allow a strong response to stand out from a weak one.
  - A weak response is one that fails to address key words and concepts, often lacking elaboration at the same time.
  - A strong response, on the other hand, answers the question with relevance, provides a good insight by considering multiple perspectives while simultaneously explaining in detail the various economic concepts.

Look at the question below as an example to elaborate further.

**Question** Explain the causes of market failure due to positive externalities.

<p>A weak response consists of:</p> <ul style="list-style-type: none"> <li>Only an explanation on both positive and negative externalities.</li> <li>Merely describing what are positive externalities.</li> <li>Explaining how they have positive externalities lead to market failure.</li> <li>A lack of in-depth economic analysis.</li> <li>Failure to draw a diagram.</li> </ul>	<p>A strong response consists of:</p> <ul style="list-style-type: none"> <li>A brief introduction on how the market can fail due to presence of positive and negative externalities and public goods.</li> <li>Pointing out that positive externalities is just one source of market failure.</li> <li>Providing unique examples of the goods that have positive externalities.</li> <li>A diagram drawn with detailed explanation on the diagram and how it leads to market failure.</li> </ul>
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From the above, we can clearly see the difference between the qualities of both the responses. This explains why the latter response will receive a higher mark than the former one.

**Tip** Key words and concepts in the question should always be addressed clearly in your response. Do not neglect them. It is also recommended that you plan your response according to the demand of the key words. Highlight or box them up so that you will keep them in mind when writing out your response.

UNIT 2  
**THE DIFFERENCE BETWEEN HIGHER-ORDER AND LOWER-ORDER THINKING SKILL SETS**

**Trend-crafting question Type 4 (Stating relationship)**

**Example** Data shows relationship between the total net export revenue and population growth, (1m)

**Mark** 'State' means to just point out; there is no need for explanation. However, if the phrase 'Explain the relationship' is used, you will need to state the relationship as well as provide logical reasoning as to why the relationship occurred.

**Types of relationship**

Direct: Meaning: When both trends increase/decrease  
Inverse: Meaning: When one trend increases, the other decreases or vice versa

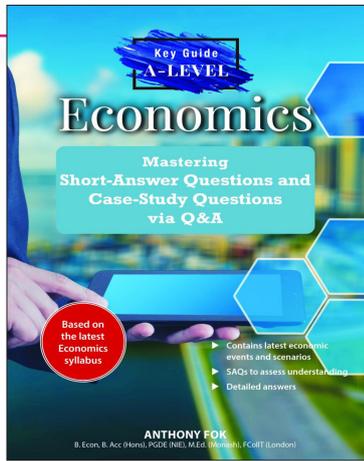
## Checklists

Checklists are provided as reminders of key things to note when answering a question.

UNIT 2  
**THE DIFFERENCE BETWEEN HIGHER-ORDER AND LOWER-ORDER THINKING SKILL SETS**

**CHECKLIST**

- Labeling of diagram: Price of \_\_\_\_\_ (must be filled up)  
Quantity of \_\_\_\_\_ (must be filled up)  
Both of PED/PES curves must be labelled, i.e. whether they are elastic/inelastic.  
Draw arrows to indicate shifts in demand, supply curve, price, quantity
- Determine whether DEDS curve shifts first and using PED/PES to explain magnitude of price changes.
- Make sure you explain the diagram using words such as "more than proportionately" or "less than proportionately" when explaining PED/PES values.
- When the word "inverse" or "reciprocal" is mentioned, always ensure that you fully explain the effects on price and quantity.
- When the word "possible reason" is used, you are to use your own knowledge, apart from case study evidence to explain.



**Mastering Short-Answer Questions and Case-Study Questions via Q&A**  
 ISBN: 9789811176210

Mastering Short-Answer Questions and Case-Study Questions aims to aid students in the application of content knowledge. The latest economic events and real-life scenarios used in this book help students better understand the key concepts in Economics. The Short-Answer Questions assess students' progress on their knowledge of the topics. Detailed answers with evaluation points and relevant examples help to facilitate students' learning in developing answering skills.

A-Level Economics: Mastering SAQ and Case-Study Questions via Q&A

5. How does the production possibility curve (PPC) illustrate concepts of scarcity, choice and opportunity cost? [1]

**Suggested Answer**

- Scarcity is illustrated by the unattainable points beyond the PPC.
- Choice is illustrated by the different points inside and on the PPC and movement along the PPC represents a change in choice.
- Opportunity cost is illustrated by the downward negative slope of the PPC.

6. Explain the concept of increasing opportunity cost. [3]

**Suggested Answer**

- The PPC is concave to the origin, implying that as more of a good is produced, larger and larger quantities of the alternative good must be sacrificed. There is increasing opportunity cost due to resources being imperfect substitutes for each other.
- As the economy concentrates on the production of one good, it has to start using resources that are less and less suitable – resources that would have been better at producing other goods.
- To produce an additional unit of a good would entail sacrifice of a greater amount of the alternative goods as increasingly greater amount of resources would have to be moved from the production of the alternative good.

7. Distinguish between free goods and economic goods. [2]

**Suggested Answer**

- Free goods are goods available in large amounts relative to popular demand, are not produced using scarce resources and consumption of such goods does not involve any opportunity cost while economic goods are goods limited in quantity relative to popular demand, are produced using scarce resources and consumption of such goods involves an opportunity cost.

8. Explain two ways in which an economy might move from a point within its production possibility curve (PPC) to a point on it. [2]

**Suggested Answer**

- A point within the PPC represents inefficient allocation of resources where there is unemployment or underemployment of resources.
- The government can adopt demand-side policies to increase aggregate demand which can induce producers to increase output by engaging more of the unemployed resources or to boost the productivity of existing employed resources.

## Short-Answer Questions

Sample questions are shown together with suggested answers presented in point form for clearer understanding.



## Case-Study Questions

Sample questions are presented with suggested answers and include relevant diagrams.



Section B: Case-Study Questions

**QUESTION 2** Singapore and the Global Recession

**EXTRACT 1**

Singapore adopted a managed float exchange rate policy, is allowed to fluctuate within an undervalued band, and a strong Monetary Authority of Singapore (MAS) steps in.

The SGD was at one of its weakest points during this response, the MAS adopted a series of expansionary policies at the very least, slow down the rate of depreciation.

In recent years, as the economy starts to recover a step hold on the exchange rate, allowing the SGD to resume a 2014, the SGD has strengthened considerably against the dollar.

**EXTRACT 2**

In view of the worsening economic conditions, caused government monetary granted a 2003 billion resilience enhance the cash flow and competitiveness of firms, not long-term qualitative.

The largest share of the package went to the stimulus bank loans were enhanced and a new risk-sharing instrument for investors to inject that capital inflow into the economy.

The most targeted component was the Job for Singapore employment rates, several employment schemes were the Skills Programme for Upgrading and Resilience (SPUR) (MS). The SPUR aimed to assist workers to qualify for the economy underwent major reforms. The WLS, on the wages and retirement savings of older low-wage workers.

The enactment of the Resilience Package has also measures for the first time ever. This shows where the economic changes.

**EXTRACT 3**

As a small, open economy, Singapore has always been in trade with Malaysia, Singapore's largest trading partner, only a mere 1.8% of its total trade. However, it does account

**EXTRACT 4**

economy contracted severely following a plummeting external demand after the 2008 financial crisis. As external demand falls, firms scramble to cut losses, retrenching workers and reducing production processes. Some firms shut down altogether. Foreign investors withdrew funds, and local businesses entrepreneurs are hesitant to venture forth.

In the face of uncertainty, the Singapore government has to step up and face by such a small and open economy.

Most importantly, the government has to face the problems left by the only has to encourage trade, but also ensure that the exports are price-competitive to the global consumer. This has to be done in the face of a 2009 food prices at the end of January 2008 had risen by 55% globally and oil prices in general have risen by 27%.

When aggregate measures are taken to reduce the inflation rate, that be looking at a long and bumpy journey ahead towards recovery.

**QUESTIONS**

(a) Justify the Monetary Authority of Singapore's use of exchange rate. [2]

(b) Discuss the effectiveness of the Singapore government's measures of the 2008 financial crisis. [10]

**Suggested Answer**

(a) The Monetary Authority of Singapore uses a floating exchange rate by strength of the Singapore Dollar (SGD) is allowed to fluctuate within a band when the economy becomes too weak or too strong, the Monetary Authority steps in to regulate the strength of the SGD (Extract 1).

When the Singapore economy is doing well, MAS ensures a stable exchange rate. This causes quantity of imports to increase. This includes raw materials and resource scarce. Not only will this increase our purchasing power, it will allow producers to be able to increase their profit margins and keep their inflation low. Even though Singapore's exports are price elastic in nature, an appreciation in currency will cause a worsening trade balance of production will be able to find our own self-sufficient industries to produce that are far more price competitive, which makes up for the loss of our export currency.

Another benefit of an appreciating currency is that it keeps demand

**EXTRACT 5**

Simulation bank lending will not only increase the amount of entrepreneurship in the economy, but also increase the amount of investments in the economy. Simulation bank lending allows greater risk bearing between private investors and the government, as an initiative to lower the economic uncertainty caused by the recession, which could be deterring potential investors from investing in Singapore. Since investment is a component of aggregate demand, an injection of investment expenditure will cause the aggregate demand of the economy to increase. Investments due to simulation bank lending will also cause a capital inflow into the economy, which increases the productive capacity of the economy, and cause an increase in long-run aggregate supply of the economy.

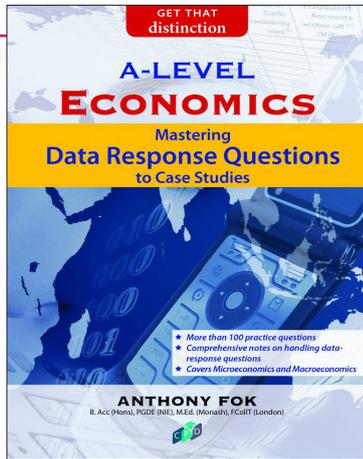
Another benefit of simulation bank lending is that besides attracting foreign direct investments, lower risks created with our entrepreneurs as there will be greater support and development of Small-Medium Enterprises in Singapore. It will be made cheaper and easier to loan money and carry out transactions for these enterprises, making entrepreneurship more viable in the long run. With better use of existing resources, it will increase the productive capacity of the economy.

Schemes such as the Skills Programme for Upgrading and Resilience (SPUR) as well as the Workforce Income Supplement (WIS) aim to equip workers with new skills that will be more relevant to the economy, as well as enable them to take up high-wage jobs that offer higher pay. By upgrading the quality of the human capital in the economy, the productive capacity of the economy is expanded as more output can be produced given the same amount of input resources.

Here, aggregate demand will increase from  $AD_1$  to  $AD_2$ , due to an increase in investment, while long-run aggregate supply will increase from  $LRAS_1$  to  $LRAS_2$ , due to an increase in productive capacity due to investment and entrepreneurship in Figure 1.

**Figure 1**

From the diagram, when there is an increase in aggregate demand, there is an unplanned fall in inventories, hence production is increased. National income increases via the multiplier process which is built on the proposition that expenditure creates income, income creates expenditure. This causes actual growth from  $Y_1$  to  $Y_2$ , which pulls Singapore out of recession.



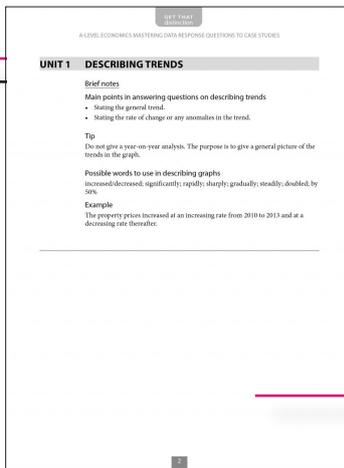
**Mastering Data Response Questions to Case Studies**  
 ISBN: 9789810936105

This guidebook in Economics Data Response Questions for Case Studies is written specially to prepare students in analysing and interpreting data in the form of tables, charts and graphs in the GCE A-Level Economics examination.

The case study paper in the Economics examination usually consists of tables, graphs and charts that students need to learn how to read, analyse and interpret. The questions and suggested solutions in this book are specially developed to help students improve their skills in tackling such data response questions, which is an essential case study component of the GCE A-Level Economics examination.

What's inside:

- More than 100 practice questions covering key Economics concepts in the A-Level Economics syllabus
- Answers to all practice questions
- Questions cover concepts in Microeconomics and Macroeconomics



## Brief Notes

Each chapter starts with brief notes to focus the students' attention on certain points when answering questions, creating a more efficient way of learning.

## Suggested Answers

Suggested answers are provided along with the question so that students can refer to them easily when doing self-evaluation.

**Q1** Using Figure 1.1, identify the trends of the US trade balance with China and with the rest of the world (excluding China) from 2008 to 2013.

**FIGURE 1.1**  
Trade balance of the US  
USD (billions)

**Suggested answer**  
 The US trade balance with China was in deficit but improving from 2008 to 2013. The US trade balance with the rest of the world (excluding China) was in a surplus and improving from 2008 to 2013.

**Q2** Using Table 1.2, describe the main features of Singapore's fiscal balance between 2011 and 2013.

**TABLE 1.2**  
Singapore government revenue and expenses (SGD, millions)

Year	2011	2012	2013
Government revenue	120,445	100,223	100,335
Government expenses	99,455	98,866	68,580

**Suggested answer**  
 Singapore was in a fiscal surplus during that period. The fiscal surplus increased between 2011 and 2013.

**Q3** Using Table 1.3, describe the trend in Singapore's GDP between 2005 and 2012.

**TABLE 1.3**  
Economic data for selected countries, 2005–2012 (GDP, constant prices, % change)

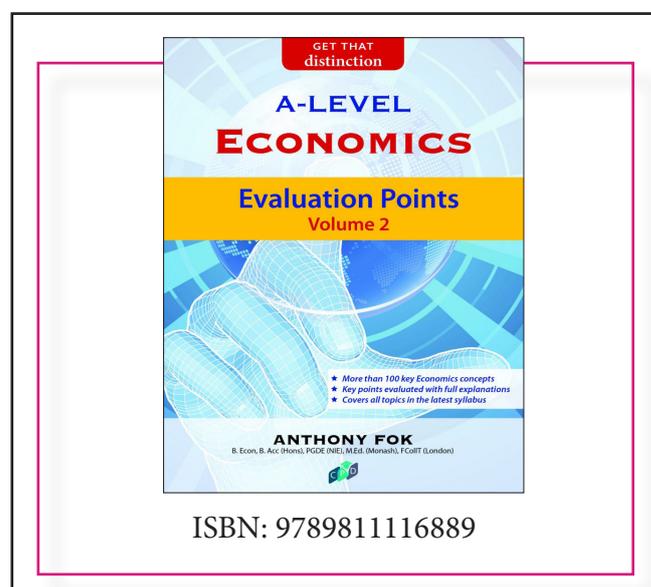
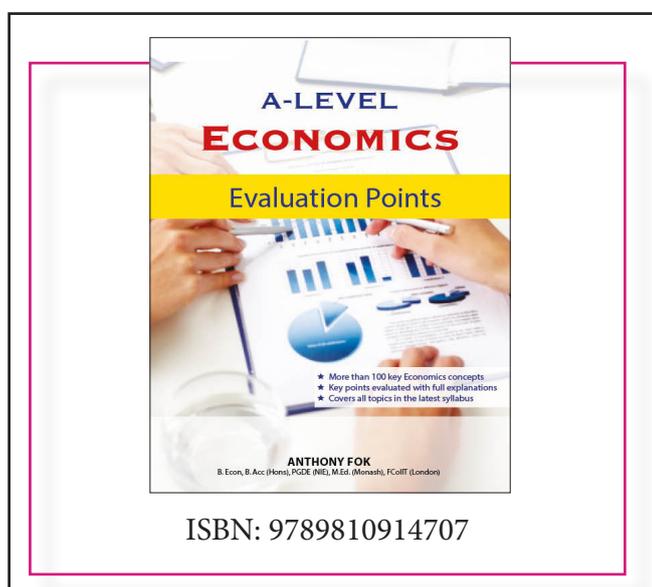
Country	2005	2006	2007	2008	2009	2010	2011	2012
Malaysia	3.77	3.47	3.07	2.56	1.91	-0.24	-1.49	3.83
Singapore	4.40	9.24	7.38	8.79	8.79	5.49	-0.77	2.32

**Suggested answer**  
 Overall, Singapore's real GDP was increasing at a decreasing rate from 2005 to 2008, but real GDP fell in 2011.

## Evaluation Points

In recent GCE A-Level Economics examinations, there has been less emphasis on testing lower-order thinking skills of knowledge and comprehension. In order to do well in examinations now, students have to display higher-order thinking skills, such as application, analysis, synthesis and evaluation. Unknown to many, regurgitation of lecture notes will only hamper a student's ability to achieve high marks. If a student wants to score a distinction in the Economics examination, it is important to write evaluative comments in the essays. However, many students find it challenging to evaluate alternative theoretical explanations and perspectives of economic problems, issues and policy decisions.

The Evaluation Points series will help students generate possible evaluation points for the theoretical content that they have learnt in class, thereby helping them to achieve their desired distinction grade in the A-Level Economics examination.



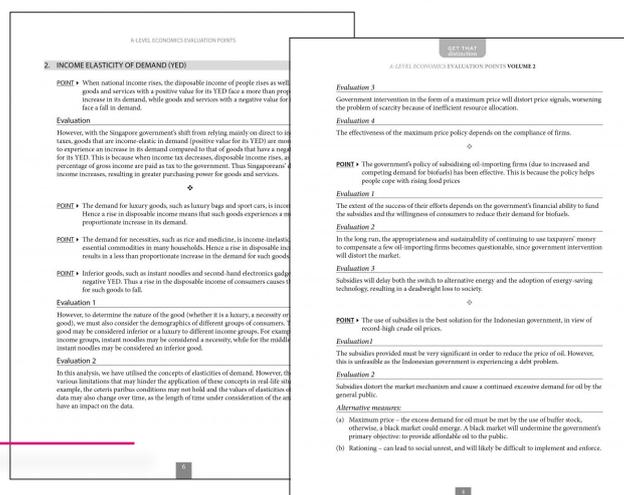
CONTENTS	
PART 1: MICROECONOMICS	
UNIT 1 DEMAND, SUPPLY AND ELASTICITIES	2
UNIT 2 MARKET STRUCTURE	14
UNIT 3 MARKET POLICIES IN THE SINGAPORE CONTEXT	25
PART 2: MACROECONOMICS	
UNIT 4 MACROECONOMIC GOALS AND STANDARD OF LIVING	48
UNIT 5 MACROECONOMIC POLICIES	78
UNIT 6 INTERNATIONAL TRADE	90

### Comprehensive Topics

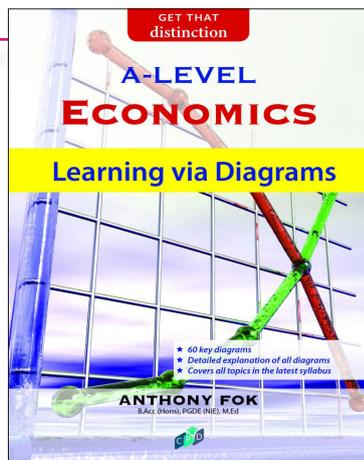
More than 100 key Economics concepts are covered, encompassing all topics required for the A-Level Economics examination.

### Points and Evaluation

Points and their evaluations are presented in an easy-to-read manner for more effective studying.



## Learning via Diagrams



ISBN: 9789810912109

Many candidates sitting for the GCE A-Level Economics examination find it challenging to reproduce the detailed diagrams required and apply them appropriately. It is essential that candidates are aware that no marks are awarded if key diagrams are simply drawn without explanations or the correct labelling. Marks are awarded for correct explanations of diagrams as well. Having well-drawn and labelled diagrams with their respective explanations enable students to get closer to getting a full mark for their answer.

In this guidebook, key diagrams in the A-Level Economics syllabus are collated together with the topics to which they belong. The diagrams are presented under their respective topics and explanations are clearly given for each diagram. The detailed explanations are included to help students link the topics to the diagrams for a more holistic understanding of each topic. Definitions for key terms are also provided to give a clearer understanding of their relationship with the diagrams.

### Detailed Diagrams & Explanations

This book is used to illustrate important concepts. Explanations provided along with the diagrams are informative and help with revision.

**UNIT 1 THE PRODUCTION POSSIBILITY CURVE (PPC)**

**DEFINITION** The PPC or the production possibility frontier shows all the different maximum attainable combinations of goods and services that can be produced in an economy within a specified time period, with a given state of technology and a fixed amount of resources, and with all of its resources fully and efficiently employed, as shown in Figure 1.

**Figure 1:**

- Point A shows the maximum amount of consumer goods produced when all resources are used in the production of consumer goods. It is measured in the quantity of consumer goods figure.
- Point E shows the maximum amount of capital goods produced when all resources are used in the production of capital goods. It is measured in the quantity of consumer goods figure.
- Points B, C and D show different combinations of consumer goods produced when the economy's resources are allocated efficiently.
- Points on the PPC represent full employment of all available when the economy is producing at points that lie on the PPC production efficiency.

**UNIT 2 THE DEMAND CURVE**

**DEFINITION** Demand refers to the different quantities of goods or services that consumers are willing and able to buy at each possible price during a given period of time, ceteris paribus.

**Figure 2:**

The Law of Demand states that there is an inverse relationship between the price of a good and the quantity demanded, ceteris paribus. The lower the price of a good, the greater the quantity demanded, ceteris paribus. Hence this gives rise to a negative slope of the demand curve. Movements along the same demand curve represent a change in the quantity demanded in price.

In Figure 2, when the price of a good falls from  $P_1$  to  $P_2$ , the quantity demanded increases from  $Q_1$  to  $Q_2$ . This can be illustrated by a movement along the demand curve, from point A to point B. This is a downward movement along the demand curve. The reverse is also true.

**UNIT 3 SUPPLY CURVES**

**DEFINITION** Supply refers to the various quantities of a good a producer is willing and able to offer for sale over a given period of time, at various prices, in a given market, ceteris paribus.

**The Supply Curve**

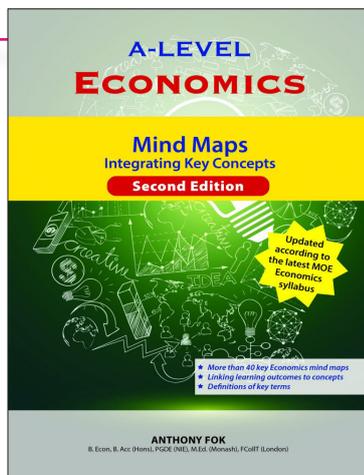
**Figure 3:**

The Law of Supply states that a direct relationship exists between the price of a good and the quantity supplied of a good, ceteris paribus. Therefore, the higher the price of the good, the greater the quantity supplied, and vice versa, ceteris paribus. Movements along the supply curve refer to a change in the quantity supplied, which occurs when there is a change in the price of the good.

In Figure 3, an increase in the quantity supplied involves an upward movement along the supply curve when the price of a good rises. Hence if there is a rise in the price of the good in question, from  $P_1$  to  $P_2$ , there will be an increase in the quantity supplied of the good, ceteris paribus. This is reflected in an upward movement along the supply curve, from point A to point B. The reverse is true as well.



## Mind Maps



ISBN: 9789811192012

It is a known fact that working with mind maps helps learners understand concepts and organise their ideas better. Mind mapping also improves our retention rate and enhances thinking and learning skills.

Therefore, this book on GCE A-Level Economics Mind Maps has been specially written to help students quickly master the key points in Economics through the use of mind maps. This book also consists of a compilation of important definitions and learning objectives that will help students in their self-study and reference in their preparations for the A-Level Economics examination.

### Informative Mind Maps

More than 40 mind maps covering 100 key concepts in the A-Level Economics syllabus.

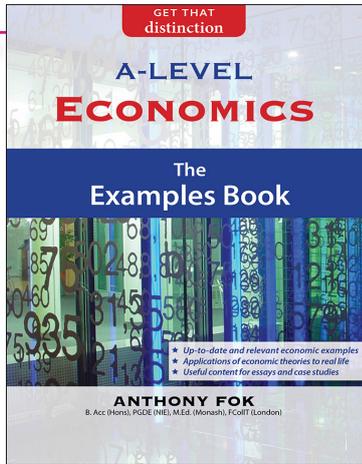
### Learning Checklist

Checklist of learning outcomes to link content to concepts required for the examination.

### Definitions

Definition list of key Economics terms for revision.

# The Examples Book



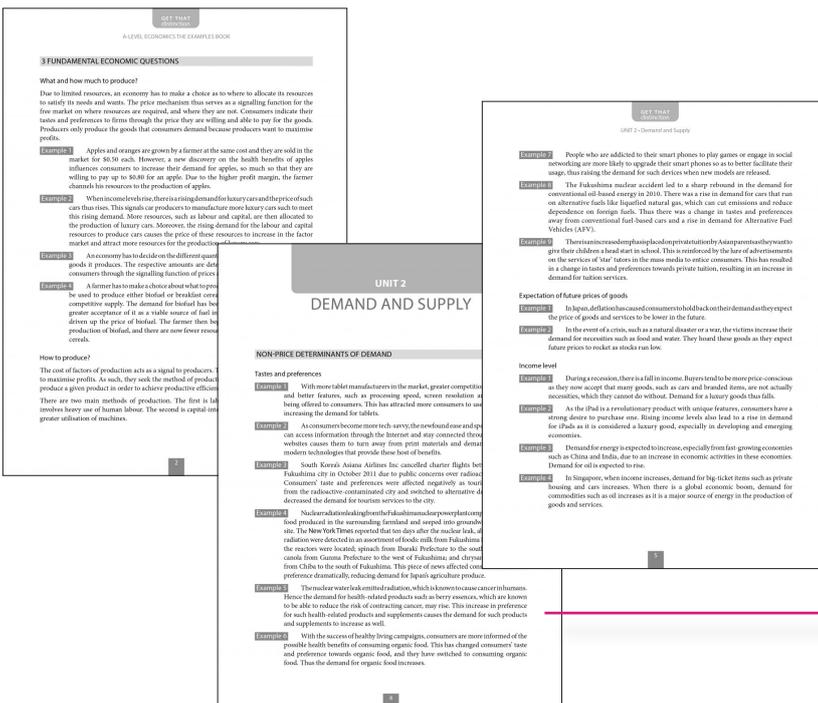
ISBN: 9789810990091

If there is one thing Economics students tend to lack, it is examples. Students spend their time memorising and digesting Economics concepts, which is a prerequisite for doing well. But to help answers shine, students need to use relevant examples. This is because every student will have the same access to the theories and concepts, but not everyone will spend the effort and time to accumulate examples and use them appropriately when crafting their answers.

The other reason why students should read examples is that they help them to understand abstract concepts better. When students struggle to comprehend how a particular theory works, an example will come in handy.

Lastly, examples also help students bridge the gap between concept and reality. When students appreciate how concepts work in the real world after they have read the examples, they become more adept at case studies and essays, where application is essential to doing well.

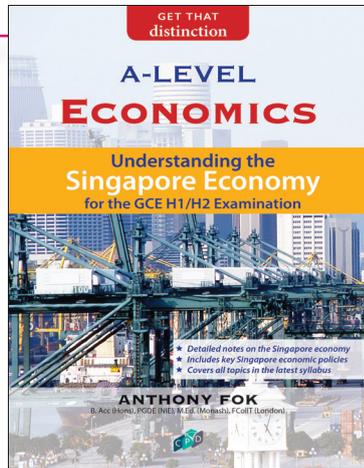
This book, which contains examples neatly categorised by topic and concept, serves as a good start for students to grow their own store of examples.



## Comprehensive Examples

Examples are explained well and linked to concepts learnt for easier application in answers.

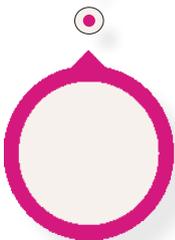
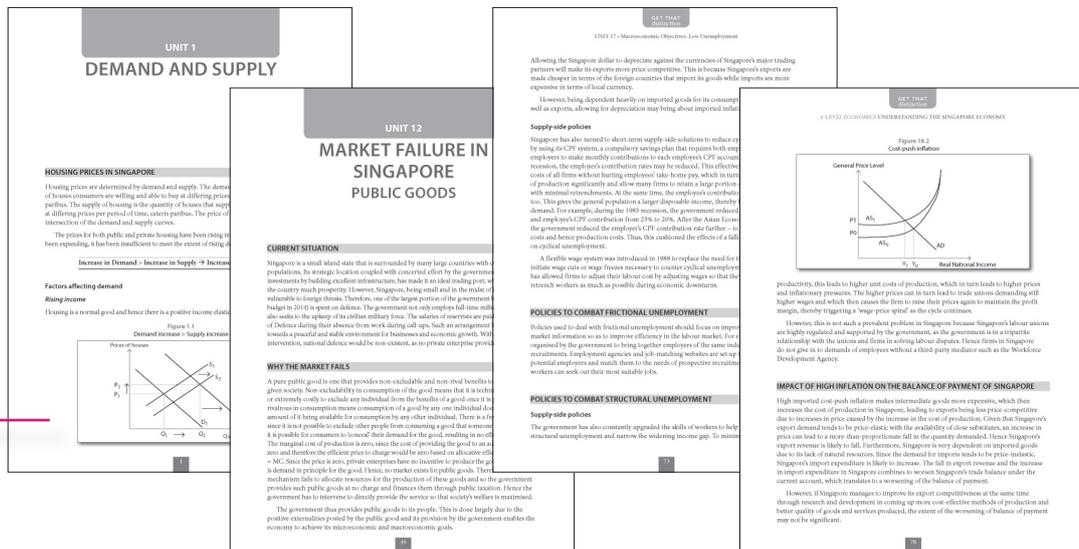
# Understanding the Singapore Economy



ISBN: 9789810918941

Many candidates sitting for the GCE A-Level Economics examination find it difficult to apply Economics concepts and principles learnt in school at the national level, that is, applying them in the Singapore context. It is essential that students are able to contextualise their essays based on the requirements of each essay question.

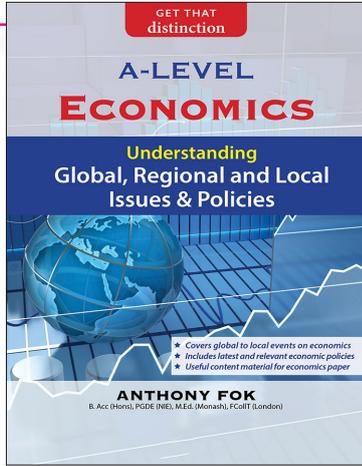
Therefore, this book of examples and policies in the context of the Singapore economy was compiled for students to cut short their learning curve and apply these examples directly into the examination questions.



## Detailed Notes

Detailed notes on Singapore's economy with examples and diagrams to facilitate understanding and equip students with knowledge necessary to answer questions with more depth.

# Understanding Global, Regional and Local Issues & Policies



ISBN: 9789810990084

Economic issues and policies can be fascinating to study but trying to understand their complex natures can be difficult and daunting.

Many of the issues and policies discussed in this book – at the global, regional and local level – should not sound foreign to students, including issues like the haze problem in the region or the Fukushima nuclear disaster, presented from the perspective of Economics.

This book will help students become more attuned to how Economics plays out in the real world through pertinent issues and policies. This book also helps students understand global, regional and local issues and policies to better appreciate these economic concepts. These issues and policies are also likely to appear in case studies or even essays in Economics examinations and tests.

**UNIT 1**  
**AGEING POPULATION**

**GET THAT distinction**  
A-LEVEL ECONOMICS UNDERSTANDING GLOBAL, REGIONAL AND LOCAL ISSUES & POLICIES

An ageing population refers to a situation wherein there is a present mean age of the population due to a rising number of elderly, or older citizens. This is usually the product of longer life expectancy and a fall in the birth rate.

As the post-war baby boomers turn 65 years old from 2012 onwards, an unprecedented age shift. Already, the change in the age profile of Singapore citizens increases from 60.0 years in 2011. A 2014 estimate that at current fertility rates, which fell from 1.29 in 2012 to 1.28 in 2013, the median age of our citizens will rise to 47 by 2036.

In 2014, 12.4% of the population was aged 65 and above which is the previous year.

**CAUSE OF THE AGEING POPULATION**

**Increase in life expectancy**  
Singapore continuously upgrades its healthcare services and bring facilities. The government also continuously revises its policies to benefit all citizens, and educate the population about the importance of all contributed to an increase in life expectancy, as the average life expectancy in 2011 was 82.4 years in 2012. Singapore also attained a life expectancy in 2014, among all the developed nations.

**Falling birth rates**  
Our declining birth rates are due to rising singlehood, later marriage, fewer children. Greater social and economic factors have also affected decisions. More women are choosing a fast career track, over family to fall in the average number of children that a woman bears in a child in Singapore may also dissuade parents from having too many children.

**Tighter immigration policy**  
In order to control the inflow of migrant workers, the government Worker Levy (WL) and Dependency Ratio Ceiling (DRC). The

**Raising total fertility rates**  
In a bid to raise birth rates, the government has introduced various incentives ranging from baby bonuses, which are cash gifts given to reduce the financial costs of raising a child, to parenthood tax rebates, which helps offset income tax. More maternity and paternity leave has also been given, to encourage working parents to have children as well.

**Limitation**  
In Singapore, the effectiveness of the baby bonus in raising birth rates has proven to be limited, showing that these incentives are not tackling the root cause of the low birth rates. Although there is much debate over the exact reasons for the low birth rates, the government has largely agreed that financial concerns are low on the list. On the other hand, factors such as the level of involvement of fathers in parenting, work-life balance and the value of a family and their children, may play a greater role in influencing the fertility rate.

**Lower employer CPF contribution rate**  
In order to facilitate the hiring of older low-wage workers, the employer's CPF contribution rate should remain at 13% to be reduced for employees aged 55 and above who are earning \$61,200 or less. This lowers the costs of hiring older workers, thus encouraging firms to retain these workers.

**Limitation**  
The effectiveness of the policy depends on the action of firms. Despite the lower costs, firms may still choose to hire younger workers who have greater potential than older workers. There are other factors involved in determining whether to hire older workers, such as their level of contribution, the relevance of their skills and their working attitude.

**Increase productivity**  
To maintain production levels in spite of the ageing population, the government has implemented various schemes to raise productivity goals with policies such as Productivity and Innovation Credit (PIC) scheme. The increase in productivity leads to lower unit costs of production, lowering unit price inflation and achieving real growth.

**Limitation**  
1. It could cause the income gap to widen, as policies taken to raise productivity levels are likely to benefit the higher skilled or those with higher qualifications. They receive higher incomes, thus worsening income inequality.  
2. Firms may substitute low-skilled labor with automation to increase productivity levels. Other than causing the income gap to widen even further, structural unemployment also increases as the displaced low-skilled laborers often lack the necessary skills required in other high-value industries.

## Diagrams

Relevant diagrams are provided when needed to enhance the answers to ensure better scores.

## Comprehensive Content

Content is covered very thoroughly and is organised in such a way that it analyses the different content and prepares students for the evaluation section of the Economics exam.

**GET THAT distinction**  
A-LEVEL ECONOMICS UNDERSTANDING GLOBAL, REGIONAL AND LOCAL ISSUES & POLICIES

**Figure 20.1**

Problem gambling has been shown to increase mental, emotional and financial stress on families as a whole, particularly in Asian societies, as the extended family is often mobilised to bear the burden of the problem gambler because of a strong ethic for collective responsibility. Compulsive gambling is also linked to domestic violence, broken families and rising debt rates.

The work productivity of additional gamblers may also decrease and they may be more inclined to turn to loan-sharks to finance their debt. Increased loan-shark activity would not only affect debtors and their families, but also the well-being of their neighbours and communities.

Some desperate gamblers may also resort to crime to finance it that higher crime rates often follow the opening of a casino. For example, the introduction of casinos in Atlantic City, the local crime rate tripled and jumped from fifth in the USA to first. One major concern for the Singaporean government is the rise of crime, particularly in the form of money laundering.

However, despite implications that the introduction of casinos will increase, they remained low, with figures below 300 in 2010 and 2011. If cases were petty crimes, not organised ones. This showed that the controlled Singaporean safety and security framework, the extensive measures of cases of corruption and fraud. In 2013, an assistant director at the Corrupt Practices Bureau was found with 2.1 charges of money laundering and forgery, which millions, partially to finance his gambling account at the Marina Bay Sands.

**Market failure**

Market failure occurs when the free and unregulated market mechanism efficiency in the case of casinos, market failure occurs due to the negative externalities are cost to the third parties who are not directly involved.

**Figure 20.2**

Debt Obligation (CDO) and add them to investors all over the world to own profits.

The increased investments in housing means that the valuation of property was rapidly rising, leading to the emergence of the property bubble. It eventually reached a point where there were few prime homeowners left to supply the market. With a huge amount of credit still available, wild speculation involving high-price (subprime) homeowners that could not, on their first home, pay back their mortgage loans. They believed that the rising property prices would continue to increase, and were thus unwilling of the owners defaulting on their mortgages. Even if they default, the houses could still be sold for an even higher price.

**Figure 20.2**

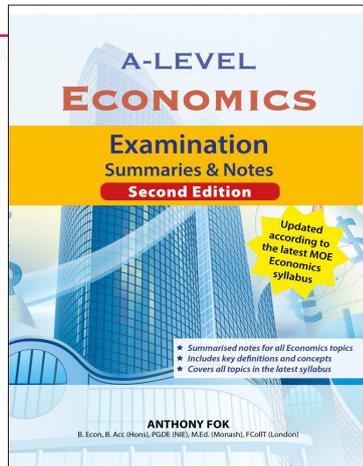
Price of Housing

Quantity of Housing

Figure 20.1 is a line graph showing the relationship between interest rates and investments. The vertical axis is labeled 'Interest rate' and the horizontal axis is labeled 'Investment'. A downward-sloping line represents the Marginal Efficiency Schedule (MES). The graph shows that as the interest rate decreases, the level of investment increases.

Figure 20.2 is a line graph showing the relationship between the price of housing and the quantity of housing. The vertical axis is labeled 'Price of Housing' and the horizontal axis is labeled 'Quantity of Housing'. It shows a downward-sloping demand curve (D) and an upward-sloping supply curve (S). The equilibrium point is where the two curves intersect. The graph also shows a shift in the demand curve from D1 to D2, leading to a higher price and quantity of housing.

# Examination Summaries & Notes



ISBN: 9789811192005

This book serves as a quick guide for students to revise for their GCE A-Level Economics examinations. The notes are prepared in accordance with the latest syllabus and are designed to help students understand quickly what is required in the syllabus and learn how to apply them in the examination. Summarised notes of all key Economics topics in the latest syllabus for examination revision help students to revise systematically. Key definitions and concepts are highlighted for concise and quick revision. The notes are presented in point form for easy memorisation.

101 Scarcity, Opportunity Cost and PPC

**How to produce?** The decision on the method of production depends on the objectives of producers and resources available when choosing the most efficient method to utilise scarce resources, e.g. labour, intensive or capital intensive.

**For whom to produce?** The decision on the distribution of goods and services is made in order to avoid wastage as to produce for those who need the goods and services most.

**Types of economy**

- Command** All decisions are made by the government (e.g. North Korea).
- Free market** Consumers and producers are motivated by self-interests and profit maximisation  $\rightarrow$  equilibrium price and output are determined by price mechanism (e.g. United States).
- Mixed** A balance of free market forces and government intervention (e.g. Singapore).

**OPPORTUNITY COST**

**Definition:** Opportunity cost is the cost of making a choice based on the next best forgone alternative.

The Law of Increasing Opportunity Cost states that as more an item is produced, more of another item has to be sacrificed production.

**PRODUCTION POSSIBILITY CURVE (PPC)**

**Definition:** The production possibility curve (PPC) shows all the different maximum attainable combinations of goods or services that can be produced in an economy, when all the available resources are used fully and efficiently, at a given state of technology.

**Assumptions**

- Economy only produces two goods or services.
- Production is observed over a specific time period.
- Quantity and quality of resources remain the same throughout the production period observed.
- Level of technology remains the same throughout the production period observed.
- Resources are fully employed and utilised.

A-Level Economics Examination Summaries & Notes

**Graphical Illustrations**  
(Please refer to Figure 1 for this section.)

**Scarcity** It is any point outside the PPC (Point A).

**Choice** Choose points along the PPC (Point B and Point C).

**What to produce?** Allocative efficiency is achieved when the current combination of goods and services allows society's welfare to be maximised only one point on the PPC.

**How to produce?** Productive efficiency is achieved when firms in an economy producing a given output with the least cost combination of inputs. All points on the PPC are efficient but points inside the PPC are inefficient.

**For whom to produce?** Distributive efficiency is achieved when goods and services produced for those who need them but not others.

**Opportunity cost** Downward-sloping PPC  
Concave vs. straight-line PPC  
Straight line  $\rightarrow$  constant opportunity cost  
Outward shift illustrates economic growth.

**Shift in the PPC**

- There is increase in the quantity of resources.
- There is improvement in the quality of resources.
- There is improvement in the level of technology.

**FIGURE 1**  
Outward shift of PPC Curve

A-Level Economics Examination Summaries & Notes

**DEMAND**

**Definition:** Demand is the quantity that consumers are willing and able to purchase at different price levels during a given time period, ceteris paribus.

The Law of Demand states that an inverse relationship exists between the price of a good and the quantity demanded, ceteris paribus.

**Factors**

- Expectation of future prices**
  - If consumers expect prices to rise in the future, they increase demand now.
  - If consumers expect prices to fall in the future, they decrease demand now.
- Government policy (tax/subsidies/campaigns)**
  - Subsidies  $\rightarrow$  government encourages consumption of goods so as to increase demand.
  - Campaigns
- Income** The higher the income level, the greater is the demand for normal goods.
- Price of related goods (joint/complementary/substitutes)**
  - Joint demand  $\rightarrow$  goods that are complementary (e.g. cars and petrol).
  - Complementary demand  $\rightarrow$  increase in demand for one good leads to an increase in demand for the other good.
  - Substitutes  $\rightarrow$  goods that are interchangeable (e.g. Coke and Pepsi).
  - Substitutes demand  $\rightarrow$  increase in demand for one good leads to a decrease in demand for the other good.
- Tastes and preferences** These will change from time to time due to advertising/campaigns.
- Population**
  - Size  $\rightarrow$  increase in size of population increases consumers and demand increases.
  - Composition (e.g. Children/Elderly/Males)  $\rightarrow$  increase in composition of elderly in the population leads to an increase in demand for healthcare services.

102 Demand, Supply and Elasticity

**Seasonal factors** Based on weather, climate, season or festivals, e.g. Valentine's Day sees a greater demand for roses and chocolates.

**SUPPLY**

**Definition:** Supply is the quantity that producers are willing and able to produce and sell at different price levels during a given time period, ceteris paribus.

The Law of Supply states that a direct relationship exists between the price of a good and the quantity supplied of that good, ceteris paribus.

**Factors**

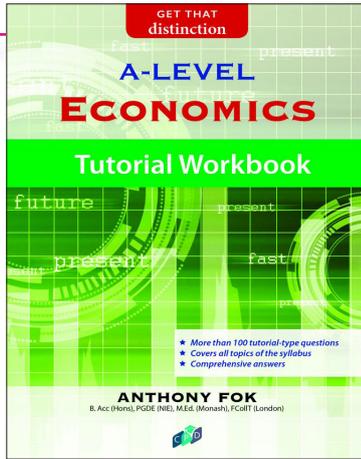
- Cost of production** The greater the cost of production, the lower is the supply.
- Government policy (tax/subsidies/regulations)**
  - Tax (direct/indirect) increases the cost of production and decreases supply.
  - Subsidies decrease cost of production and increase supply.
  - Regulations
- Expectation of future prices** If producers expect prices to rise in the future, they increase (hold back) supply now. If producers expect prices to fall in the future, they increase (release) supply now.
- Technology** Better technology enhances production and increases supply.
- Price of related goods (joint/complementary/substitutes)**
  - Joint supply, i.e. goods produced together (e.g. beef and leather) increase in the supply of beef leads to an increase in the supply of leather.
  - Complementary supply (i.e. goods produced in the expense of each other (e.g. food and beef)) increases the supply of food, leading to a decrease in the supply of beef.
- Number of sellers** The greater the number of sellers, the greater is the supply.
- Unnatural disasters** When there are wars or natural disasters in the producing country, the supply decreases.
- Seasonal goods** Goods are only in supply when they are in season, especially for



**Key Concepts and Definitions**

Definitions and key concepts are highlighted so students can revise more efficiently.

# Tutorial Workbook



ISBN: 9789810944940

This GCE A-Level Economics Tutorial Workbook is written specially to help students develop their understanding of Economics and to build up skills to enable them to assess their own progress. There are structured questions, multiple-choice questions and fill-in-the-blanks questions to help students track their understanding of the subject. Although such questions are not in the examination format of the GCE A-Level Economics paper, it is through such practices that students can gain better content mastery and ferret out existing gaps in their knowledge. Full solutions are provided to guide students so that they will have a better understanding of the underlying Economics theories and principles involved.

**UNIT 1**  
**SCARCITY, CHOICE AND OPPORTUNITY COST**

- Define each of the following terms: (a) scarcity, (b) choice, and (c) opportunity cost.
  - \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
- Explain the concept of opportunity cost and scarcity using a Production Possibility Curve (PPC).
- State and describe the 4 main sources of potential economic growth.
  - \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_

**GET THAT distinction**  
**A-LEVEL ECONOMICS THE TUTORIAL WORKBOOK**

- Distinguish between productive efficiency and allocative efficiency.
 

\_\_\_\_\_

\_\_\_\_\_
- What is the opportunity cost of an increase in fixed capital formation in an economy producing at full employment level? Select from the 4 options (A, B, C or D) given.
  - The rise in capital consumption
  - The rise in interest rates
  - The rise in prices of goods and services
  - The fall in current consumption
- Which of the following are macroeconomic issues and which are microeconomic ones? Circle correct choice.
 

(a) The level of government expenditure	Microeconomic / Macroeconomic
(b) Subsidies for education	Microeconomic / Macroeconomic
(c) The level of Singapore exports	Microeconomic / Macroeconomic
(d) The price of inflation	Microeconomic / Macroeconomic
(e) The average wage rate paid to cleaners	Microeconomic / Macroeconomic
(f) Campaign to discourage gambling at world cup	Microeconomic / Macroeconomic
(g) The entrance levy for Singaporeans at casino	Microeconomic / Macroeconomic
- Which of the following are positive economics (P) and which are normative economics (N)? Write 'P' or 'N' in the blank.
  - If price of cars goes up, people will buy less.
  - The battery lifespan of ABC phones last longer than XYZ phones.
  - Singapore should have more subsidies to help the poor.
  - Schools ought to plan more supplementary lessons for students to improve their grades.
  - Mt. Everest is the tallest mountain on Earth.
  - Increased tax levies on cigarettes will discourage smoking.

**UNIT 2**  
**DEMAND, SUPPLY, ELASTICITY CONCEPTS**

- State the definition of 'demand'.
 

\_\_\_\_\_
- Distinguish between 'want' and 'demand'.
 

\_\_\_\_\_
- 'Final demand' is the demand for goods by consumers while 'derived demand' is the demand that is dependent on the demand for another good. Fill in the table below with the corresponding derived demand to the final demand given.
 

Final demand	Derived demand
(a) Bread	_____
(b) Cars	_____
(c) Clothes	_____
(d) Crayons	_____
(e) Coal	_____
- State whether each of the following pairs of goods are complements or substitutes of each other.
 

Goods	Complements (C) / Substitutes (S)
(a) iPhone vs. charger	_____
(b) Nike shoes vs. Adidas shoes	_____
(c) Printer vs. ink cartridge	_____
(d) Car vs. petrol	_____
(e) Rice vs. noodles	_____

## Tutorial Questions

Test students' understanding of different concepts covered in the syllabus.



## Detailed Answers

Answers provided are detailed for self-checking.

**ANSWERS**

**UNIT 1 SCARCITY, CHOICE AND OPPORTUNITY COST**

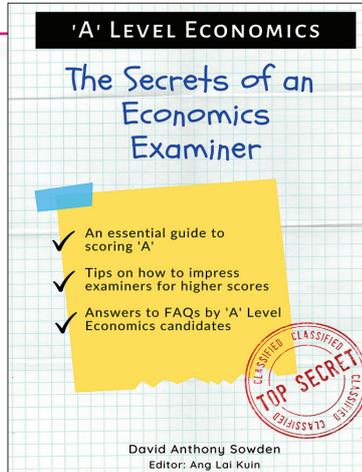
- (a) Scarcity: It is a situation where limited resources available are unable to satisfy unlimited human wants.  
(b) Choice: A choice is a decision made to decide the allocation of scarce resources on how and for whom to produce.  
(c) Opportunity cost: It measures the cost of making a choice, in terms of the next best alternative foregone.
- 
- There is scarcity as combinations outside the PPC cannot be attained, given present amount resources (for example, labour and the level of technology). The downward-sloping nature of PPC illustrates opportunity cost. Opportunity cost refers to the next best alternative foregone: more of Good X produced, more units of Good Y has to give up.
- (a) Labour: An increase in population results in a larger workforce. Greater participation in various and better jobs in the workforce also increases the size of the labour force.  
(b) Land: The discovery of oil, natural gas and coal is an important factor of production to increase the output of an economy.  
(c) Capital: Man-made tools that help increase production, such as factory line machines, reduce current output in order to increase future output for consumption.  
(d) Entrepreneurship: This is the human resource that organises labour, land and capital to ensure economic efficiency.
- Productive efficiency is attained when firms produce the maximum output with the minimum amount of input.  
Allocative efficiency is attained when the current combination of goods produced for consumption gives maximum satisfaction to consumers such that no one can be made better without someone being made worse off.
- Answer: D  
Explanation: An increase in capital consumption results in an increase in investment, which then increases the demand for funds. For investment, producing 2% interest rate. This induces an increase in savings, which contributes to a fall in consumption.

**GET THAT distinction**  
**A-LEVEL ECONOMICS THE TUTORIAL WORKBOOK**

- |                   |                   |
|-------------------|-------------------|
| (a) Microeconomic | (f) Microeconomic |
| (b) Microeconomic | (g) Microeconomic |
| (c) Microeconomic | (h) Microeconomic |
| (d) Microeconomic | (i) Microeconomic |
- |       |       |
|-------|-------|
| (a) P | (f) P |
| (b) N | (g) N |
| (c) P | (h) P |
| (d) N | (i) P |
- | Command economy   | Market economy  |
|---|---|
| <ul style="list-style-type: none"> <li>Factors of production are owned by the government.</li> <li>The allocation of resources is decided by central allocation committee.</li> <li>Competition incentives economic efficiency.</li> <li>Price mechanism is used to allocate scarce resources.</li> </ul> | <ul style="list-style-type: none"> <li>Factors of production are owned privately.</li> <li>Individuals are given freedom of choice.</li> <li>Individual, firms and business owners act in self-interest.</li> <li>Competition incentives economic efficiency.</li> <li>Price mechanism is used to allocate scarce resources.</li> </ul> |
- In a free-market economy, the pursuit of self-interest encourages maximising the use of limited resources. Producers aim to maximise profits while consumers aim to maximise satisfaction. This induces savings of resources. However, while a free market economy is efficient in the allocation of scarce resources, it fails due to the existence of market failures. Thus there is a need for some form of government intervention to regulate the market to produce public goods such as education.
- Answer: A  
Explanation: Opportunity cost (defined as the next best alternative foregone) John feels that staying at home is the best choice and his choice that he has to forgo is the enjoyment he would have had from a vacation.



## The Secrets of an Economics Examiner



ISBN: 9789811801518

This book was written by a former Cambridge (Singapore) examiner, Mr. David Anthony Sowden. He has taught Economics since 1975.

In this book, students will gain insights on marking, tips on answering A-Level Economics examination questions as well as answers to Frequently Asked Questions (FAQs) that Economics candidates are likely to ask. It includes sections that give advice on diagrams, the case-study paper and past examination questions. This book will help students find out how to impress examiners for higher scores in Economics.

### Contents

Introduction	1
Characteristics of Successful Students	5
Big Ideas in Economics	6
Re-Marking!	10
Handwriting	12
Diagrams	13
Aims of the Syllabus	16
The Case Study Paper	17
Past Year Examination Papers	19
Frequently Asked Questions (FAQ)	21
Bloom's Taxonomy	34
Writing a Good Conclusion	37

### Insightful Tips

Understand the Economics examination from an examiner's point of view through various tips and advice.



### Characteristics of Successful Students

To be honest, I was not entirely sure to include this section! However, if you are already fully aware of my recommendations, then at least you can be sure you are on the right track!

There are many such lists; should you encounter something similar that seems to be important, please feel free to add it to your own collection!

1. Be goal-driven
2. Be intellectually curious
3. Be self-motivated
4. Be creative and original
5. Develop effective communication skills
6. Think broadly, in other words, see the big, or bigger, picture
7. Develop your ability to perform under pressure
8. Develop competent writing, reading and analytical skills
9. Develop efficient time management
10. Be disciplined, responsible and self-reliant
11. Be optimistic
12. Avoid procrastination

### Big Ideas in Economics

1. Choice
2. Comparative Advantage
3. Competition
4. Diminishing Returns
5. Division of Labour
6. Economies of Scale
7. Efficiency
8. Externalities
9. Incentives
10. Invisible Hand
11. Market Failure
12. Markets
13. Maximisation
14. Opportunity Cost
15. Optimisation
16. Price
17. Rationality
18. Rationing
19. Resources
20. Scarcity
21. Stocks and Flows
22. Utility
23. Value
24. Welfare

2 The Secrets of an Economics Examiner

You all know Christmas is a big celebration in the UK. We even have German Christmas Markets which are far bigger than any festive market in Singapore. Well here comes our old friend 'opportunity costs' again!

During the years when I was marking A levels for Cambridge, I knew I was incurring significant opportunity costs! I still have memories of my daughter pleading 'you can't mark when it's Christmas Daddy'.

Now examiners do get paid but it is not a great deal of money and I think it is fair to say that the vast majority of examiners do it because it is such an important task, with potentially significant consequences and should not be undertaken if one has been partying the previous night!

#### Do markers find Essay and Case Study papers interesting?

Your markers meet in Cambridge. They would have travelled very long distances for this meeting. After the buzz around the Examiners' Meeting, marking is rarely interesting! That however, wasn't always true!

When I was marking scripts from Singapore, I learned a lot about Singapore and its economy. For example, the recession in the 1980s and the construction of the Mass Rapid Transit system.

I knew then that, one day, I wanted to live and work in Singapore.

Three or four years before I was invited to teach in Singapore, I applied to become the Chief Examiner for one of the UK Examination Board that was setting up a new type of examination - what we would call Data Response or, in Singapore, Case Studies.

In my interview, I pointed out to my interviewers, that the candidates were not given authentic data. The data given was fictional. At that point, I realised I had just criticised the work of the people who were appointing the new Chief Examiner!

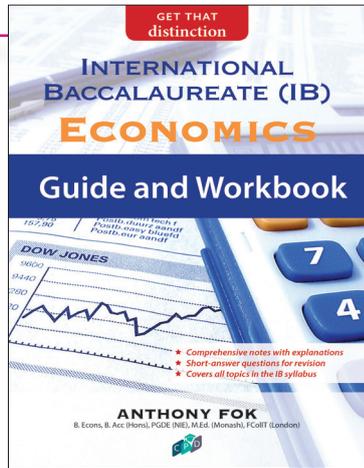
Fortunately, the interviewers agreed with me and I got the job. This was the beginning of Data Responses/Case Studies in the UK.

[However, I believe it remains the case that criticising your interviewer is not normally an advisable tactic in jobs, or university interviews!]

5

6

# International Baccalaureate Guide and Workbook



ISBN: 9789811107139

## Key features:

- Comprehensive notes with detailed explanations using diagrams.
- Short-answer questions to test students' understanding of key economic concepts, principles and theories.
- Full solutions provided for self-check and discussion with teacher.
- Covers all topics in the IB syllabus.

While the IB syllabus is not entirely different from the A-Level syllabus for Economics, the two are also not interchangeable. Thus, there is still a need for a resource that comprehensively guides IB students taking the subject.

This book is meant to be a point of reference for students whenever they are unsure about a particular concept, and thus it is clearly structured and easy to navigate. It is also useful as a summary of all the necessary concepts, and can be used before a test for revision.

## Detailed Diagrams

Notes are accompanied by detailed diagrams which aid in the understanding of concepts.



INTERNATIONAL BACCALAUREATE ECONOMICS GUIDE & WORKBOOK

Exercises

1. Define a market.
2. A market is in \_\_\_\_\_ when quantity demanded equals quantity supplied.
3. Price \_\_\_\_\_

In the diagram shown, identify and write in the space the points on the demand-supply diagram where:

- (a) the market is in equilibrium.
- (b) demand exceeds supply.
- (c) supply exceeds demand.

4. Define demand.
5. The demand curve is \_\_\_\_\_-sloping because the law of demand states that an \_\_\_\_\_ relationship exists between the \_\_\_\_\_ of a good and the \_\_\_\_\_ of the good, ceteris paribus.

UNIT 1 - Demand and Supply

4. From the three options in the box, identify and write in the space the option that demonstrates each of the following.

Fabric and clothing   Tennis racket and tennis ball   Nike and Adidas running shoes

- (a) Derived demand for a final good.
- (b) Complements.
- (c) Substitutes.

7. List the non-price determinants of demand.
  - (a) \_\_\_\_\_
  - (b) \_\_\_\_\_
  - (c) \_\_\_\_\_
  - (d) \_\_\_\_\_
  - (e) \_\_\_\_\_
8. Define supply.
9. The supply curve is \_\_\_\_\_-sloping because the law of supply states that a \_\_\_\_\_ relationship exists between the \_\_\_\_\_ of a good and the \_\_\_\_\_ of the good, ceteris paribus.
10. From two options in the box, identify and write in the space the option that demonstrates each of the following.
 

Beef and leather   Beef and rice

  - (a) Joint supply.
  - (b) Competitive supply.

UNIT 1 - Demand and Supply

FIGURE 1.11

As seen from Figure 1.11, any rise in price beyond \$10 will cause the quantity demanded to fall to zero.

5. Perfectly inelastic demand

Demand for a good is perfectly inelastic when an increase in the price of the good leads to no change in quantity demanded.

FIGURE 1.12

As seen from Figure 1.12, when price increases from \$4 to \$10, the quantity remains constant at 10 units.

Determinants of PED

1. Availability of substitutes  
The availability of substitutes can be affected by the number and closeness of substitutes. A greater number of substitutes will result in the demand for the good to be more price elastic. Closer substitutes will also result in a higher price elasticity of demand.
2. Degree of necessity  
Basic goods have a higher degree of necessity. Despite price changes, the quantity demanded for the good will remain relatively unchanged. The demand for the good will therefore be price inelastic. Basic goods include shoes, water and staple food like rice.  
People with habits or addictions, however, will still continue to purchase (alcohol, cigarettes) despite price increases as they are strongly addicted to the need to smoke. These goods are habit forming.
3. Proportion of income  
The greater the proportion of income spent on a good, the higher the price elasticity of demand for the good. For example, purchasing television sets is a significant proportion of a consumer's income. Any price increase will thus result in a more than proportionate decrease in the quantity demanded for television sets. This is because consumers will have difficulty securing extra disposable income to purchase the television sets. This is because consumers will have difficulty securing extra disposable income to purchase the television sets. This is because consumers will have difficulty securing extra disposable income to purchase the television sets. This is because consumers will have difficulty securing extra disposable income to purchase the television sets.

UNIT 1 - Demand and Supply

FIGURE 1.14

Since the gain in TR (area BCDQ<sub>1</sub>) is more than loss in TR (CAF<sub>1</sub>P<sub>1</sub>), the total revenue has increased as a result of decrease in price. Therefore, a firm selling goods that are demand price elastic should lower prices to raise total revenue. Demand is price inelastic. Let Q<sub>0</sub> = 100, Q<sub>1</sub> = 80.

FIGURE 1.15

When demand is price elastic, an increase in price will cause a less than proportionate decrease in quantity demanded. When price increases from P<sub>0</sub> to P<sub>1</sub>, quantity demanded decreases from 100 units to 80 units. At the original price of P<sub>0</sub>, total revenue is P<sub>0</sub>Q<sub>0</sub> = 100 × 100 = 10,000. When the price increases to P<sub>1</sub>, total revenue is P<sub>1</sub>Q<sub>1</sub> = 110 × 80 = 8,800. This is a loss of 1,200. Since the gain in TR (area BCDQ<sub>1</sub>) is more than loss in TR (CAF<sub>1</sub>P<sub>1</sub>), the total revenue has increased as a result of an increase in price. Therefore, a firm selling goods with price inelastic demand should raise prices to raise total revenue.

2. Use of PED by the government  
Government spending is largely funded by tax revenue. Hence, if the government were to increase tax revenue, indirect taxes should be implemented on goods with relatively price inelastic demand. If quantity demanded will change less than proportionally, this means that total revenue will not be greatly affected.



## Short Answer Questions

Short answer questions are provided for students' revision and to cement concepts learnt.



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