

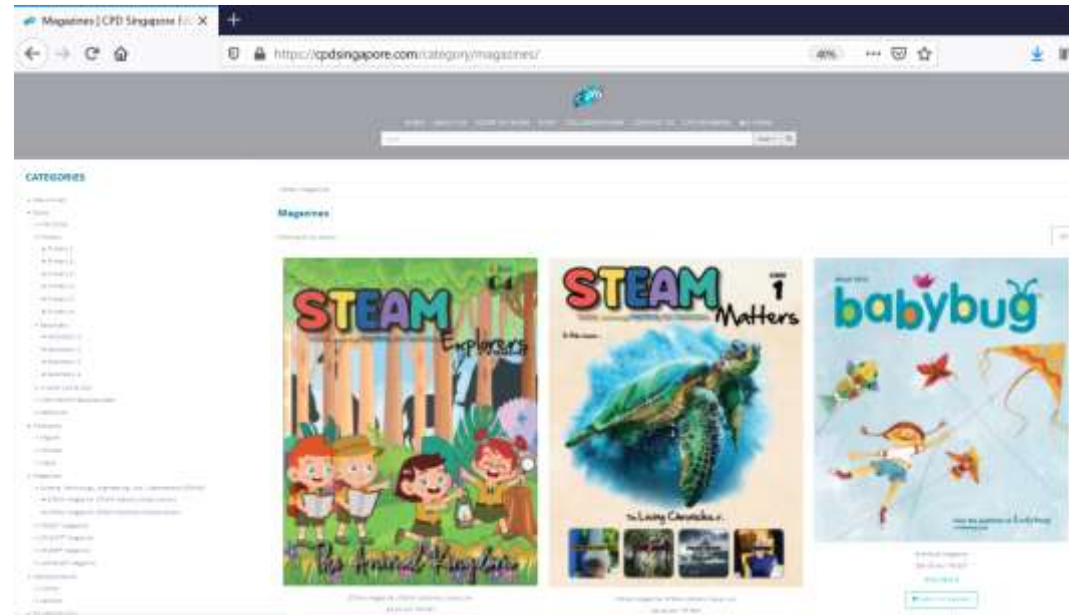
# Let's Explore **STEAM** With Dad!

A collaboration between



# More About CPD Singapore Education Services

- CPD Singapore Education Services Pte Ltd is a Singapore-based private limited **education consultancy firm**.
- Comprises of a local network of university professors, former National Institute of Education (NIE) lecturers and ex-Ministry of Education (MOE) officers.
- **Published more than 200 assessment books** from pre-school to pre-university levels, and developed various educational resources and comprehensive curriculums.
- Committed to ensuring sustainability educational strategies and practices.



[www.cpdsingapore.com](http://www.cpdsingapore.com)

# What is STEAM?

- **STEAM is derived from STEM**, which is essentially a more specific curriculum of education in the areas of **science, technology, engineering, and mathematics**. In order to understand STEAM, we first need to understand a little bit about STEM.
- **STEM was introduced in the early 2000s** because it was noticed there was a decline in proficiency of the subjects in the STEM field. STEM includes learning about the science, technology, engineering, and mathematics in completely scientific concepts.
- STEAM, like STEM, teaches science, technology, engineering, and mathematics. However, **STEAM includes the arts as well**. Included in the teaching of the arts is drama, dance, music, media and visual arts, among others. While this curriculum also includes science, technology, engineering and mathematics, **the teaching of STEAM is different in that it looks at the subjects in a more creative and inquiring type of way.**

# For Your Information:

- CPD Singapore Education Services Pte Ltd publishes 2 types of STEAM Magazines.

## STEAM Explorers:

- STEAM Explorers magazines aim to give young learners a head start in school and life.
- Cognitive and critical thinking skills take centre stage as they are introduced to engaging information interspersed with knowledge and topics which are already hovering within their curious minds.
- STEAM Explorers Magazines enhance children's capabilities and takes learning to a whole new level!
- **Suitable for: Ages 4-8**



## STEAM Matters:

- STEAM Matters has been specially designed to stimulate creative and critical thinking skills, expose learners to real-world application, and to instil FUN!
- Each issue is packed with a broad variety of topics, striking images and stories, as well as interactive activities and quizzes!
- **Suitable for: Ages 9 -12**

More about the project:

Let's Explore

**STEAM**

With Dad!

# WHAT IS IT?

- A STEAM project organised by CPD together with the Center For Fathering and the Dads For Life movement.
- For fathers and their children to create a STEAM project based on activities from the magazines and submit their entries as recorded videos (MP4) or Microsoft Powerpoint files.

# PURPOSE OF PROJECT

- Create opportunities for bonding between father and child.
- Enhance STEAM knowledge.
- **HAVE FUN while doing the project together!**



# PARTICIPATION PROCESS

1. Receive project challenge today.
2. Discuss with your child on how to make it even more exciting / aesthetically-pleasing.
3. Recreate this activity and document your creative journey either through:
  - a) Microsoft Powerpoint file **OR**
  - b) MP4 file
4. Email the file to [cpdsespl@gmail.com](mailto:cpdsespl@gmail.com) with your contact details, ie:
  - a) Dad's name, Child's name, Education Level, School.
5. Deadline: 31 Mar 2021, 2359hrs.

# JUDGING CRITERIA

PERCENTAGE	CRITERIA
50%	<b>ORIGINALITY</b> Make the project as outstanding/appealing as possible through the creative use of: <ul style="list-style-type: none"><li>• Imagination</li><li>• Materials</li><li>• Techniques</li></ul>
30%	<b>FLOW OF CONTENT</b> A clear and sequential documentation from the start to end of the project, detailing the: <ul style="list-style-type: none"><li>• Parent &amp; child discussion about how to go about the project.</li><li>• Decisions made on how to proceed with the project.</li><li>• Parent participation and support in the project.</li></ul>
10%	<b>COHERENCE OF EXPLANATION</b> A clear and detailed summary at the end of the project, explaining the decisions undertaken to make the project as outstanding as possible.
10%	<b>TECHNICAL ABILITY</b> The general aesthetics and quality of construction of the project.



# SUBMISSION FORMATS

FORMAT	CRITERIA
MICROSOFT POWERPOINT (preferred)	<ul style="list-style-type: none"><li>• <b>Not more than 20 slides</b></li><li>• Typewritten explanation for each slide is required.</li><li>• Please include pictures of the project construction from start to finish.</li><li>• Please include an Introduction and Summary Slide<ul style="list-style-type: none"><li>• Introduction: How would you and your child make this project outstanding?</li><li>• Summary: Why do you think the end product is outstanding?</li></ul></li><li>• <b>Important note:</b> parent participation must be evident in the project.</li></ul>
MP4 FILE	<ul style="list-style-type: none"><li>• <b>Not more than 10 minutes in duration</b></li><li>• Explanation must be verbalised in the MP4 file</li><li>• Please include an Introduction and Summary<ul style="list-style-type: none"><li>• Introduction: How would you and your child make this project outstanding?</li><li>• Summary: Why do you think the end product is outstanding?</li></ul></li><li>• <b>Important note:</b> parent participation must be evident in the project.</li></ul>

# PROJECT RULES & REGULATIONS

- All entries must be submitted by the deadline, 31 Mar 2021 2359hrs.
- Only 1 entry per parent+ child/children team per education level, ie. 1x Lower Primary and 1x Upper Primary.
- All entries must be submitted in accordance to the format and content requested in previous slide.
- CPD reserves the right on all materials that are submitted.
- CPD reserves the right for cancellation.
- CPD reserves the right to upload submitted contest entries to social media sites including and not limited to YouTube, Facebook, Instagram etc.
- Decision on contest is final.

# PROJECT PRIZES

- 1<sup>st</sup> Prize: STEAM Explorers Magazine Subscription



- 2<sup>nd</sup> Prize: STEAM Bicycle

- 3<sup>rd</sup> Prize: STEAM ALIVE BOX-SET



# USEFUL SOURCES FOR INSPIRATION



Search for  
“steam project”.



<https://www.pinterest.ca/scholarschoice/steam-projects/>



<https://lemonlimeadventures.com/50-totally-awesome-steam-projects-to-boost-creativity/>

## ***Note:***

- ***Above are some sources of STEAM projects for reference only.***
- ***There are many more of such sources available on the Internet.***
- ***CPD and Centre For Fathering are in no way associated with the companies listed above.***

The Project:

Make Your Own

**Volcano**

With Dad!

# DID YOU KNOW?



# DID YOU KNOW?



In 1883, Mount Krakatau in Southeast Asia erupted, releasing 200 megatons of energy, which is equivalent to 15 000 nuclear bombs!



1 in 20 350 million people in the world lives within an active volcano area as the soil is known to be rich and fertile.

## Did You Know?

2 of the most active volcanoes are located in Asia.



During a volcano eruption, heat energy is transferred through the lava onto the surface of Earth. Deep within the Earth lies molten rocks, debris and gases that shoot up through such volcanoes in the form of lava. Volcano eruptions are known to be one of the world's most spectacular natural events.

# MAKE YOUR VERY OWN VOLCANO!

## Parts of a Volcano



## Earth's Layers



Beneath Earth's tectonic plates lies the mantle. It is made up of mostly magma, or melted rock. Under the mantle is Earth's inner and outer core. Earth's plates float on the mantle. They constantly shift and move. Some plates collide and slide past each other while other plates pull apart. When these plates shift, magma can shoot out of the Earth as lava.

## Things You Will Need:



## BLOW O LAVA

Discover the processes involved in a volcano eruption as we learn more about these amazing geological formations. Let us mimic the eruptions of a volcano using recyclable materials and ingredients in this exciting experiment.



Cut a plastic bottle in half. The top half will be used to form the basic shape of the volcano. Tear up old newspapers into long strips.

Dip the long strips of old newspaper into a mixture of glue and water, and stick them around the plastic bottle.



After the volcano has been set to dry and painted to look like a volcano, pour 4 tablespoons of baking powder into the volcano (plastic bottle).

Mix 1 cup of vinegar with a few drops of red food colouring. Pour the mixture inside the volcano and watch the volcano erupt!



As the baking soda and vinegar reacts together, the 'red hot lava' fizzes and froths out of the volcano causing the 'eruption'.



## SOURCE:

- STEAM EXPLORERS Issue 02, Pages 24 - 27
- Please refer to



<https://cpdsingapore.com/dads-for-life/>

**Q & A**