

Starters for STEM



Starters for STEM are 10 activities that parents can use at home to help children develop their science, technology, engineering and maths skills. These activities are easy to resource and provide children with the stimulus to talk about the world around them. If you see a link you can explore how to extend these activities, you will need to sign up, for free, to access these materials. Don't forget to share your work on social media

#ScienceFromHome

Brilliant bridges

The world's longest bridge is in China and is 164.8km long. It would take more than two days to walk the length of this bridge.

Try building a bridge big enough for a toy car. You could use paper, Lego or any other building materials you might have at home.

<https://bit.ly/3fhNeJe>

Design a sports kit

Design a sports kit suitable for a sport you choose.

Think about where this sport takes place (e.g. indoors, outdoors, on water etc.). Think about the type of material you will use and why you have used it.

<https://bit.ly/3c401wy>

Sophia Barnacle

Sophia was a British inventor who invented the Helter-skelter slide in 1907.

Try using junk box materials to make your own helter-skelter or marble run.

<https://bit.ly/2YuJmys>

Clucking chickens

Make an instrument that sounds like a chicken. You will need: tin can/ plastic cup, and some string.

Make a small hole in the base of a plastic cup. Thread string through the hole and knot it on the inside. Wet your fingers and run them down the string to produce a clucking noise

<https://bit.ly/3berawB>

Autosub 6000 Ocean Floor Mission

Use scratch to debug and improve the Autosub6000 around the ocean floor. Activity notes and instructions can be found here:

<https://bit.ly/3enBu7s>

Making Music

A kazoo is a simple wind instrument that create a humming sound.

Take a cardboard tube and cover the end with greaseproof paper held on with an elastic band. Make a hole in the tube close to the elastic band. Now hum down the tube from the open end.

What can you hear? What is making the sound?

<https://bit.ly/3berawB>

Unplugged Coding

Watch <https://bbc.in/2XBXWnp>

Create a simple under the sea obstacle course or draw an obstacle course on a piece of paper.

Write simple code to guide the submarine around the obstacles found under the sea. E.g. Rocks, ship wrecks, sleeping octopus. E.g. →→→↓→→→↑→

Heavier than a potato

Hold a potato in one hand. What can you find in your house that is heavier than your potato?

What is lighter?

Can you find something that weighs the same?

Origami

When the Japanese Space Agency is looking for new astronauts they set them a challenge to create as many origami cranes as they can in a set time. They all have to be identical, with perfect folds. Try making an origami animal following instructions online. Can you make it again so the next one is identical?

Expanding gummy bears

You will need a selection of gummy bears. Measure their length.

Now put a gummy bear in water and leave it for a few hours. Take the bear out of the water. What has happened to it?

What other liquids could you test your gummy bear in?