

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

Forces at home

Take a walk around your house. Can you see any forces in action? Are they pushes or pulls?

Forces can make things move and can make things change shape. Can you find evidence of any of these in your home?

Unplugged coding

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

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

Now guide a robot (Parent/sibling/toy) through the obstacles course by shouting out simple instructions. E.g. forwards, right, left, backwards.

Take a walk

Go for a walk in your local area. Look for evidence of flowers, seeds, berries and fruits. Did you find some plants that would disperse their seeds through wind, animals, water or even explosion?

A puppy's parents

Find pictures of two different dogs. List all the features of your two dogs. For example, short tail, fluffy tail, brown nose, pink nose, spotty coat, curly coat. Now take features from each parent to create a puppy. If you take short tail from one parent, don't also take fluffy tail. Draw a picture of your new puppy. Does it look like its' parents? Create another puppy in the same way choosing other features. How many different puppies can you create? <https://bit.ly/3710DH1>

Drink surprise!

You will need 3 different flavours of water and 3 different food colourings. Add a drop or two of food colouring, use a colour which is different to what you expect, e.g. blue for strawberry. Ask someone at home to guess the drink you have given them. Get them to taste it and see if they were right. Were they surprised? <https://www.stem.org.uk/xerzq>

Daytime moon observation

When you're outside in the daytime see if you can find the Moon in the sky. What shape is it? Keep a log of the shape of the moon each day and draw a picture of its shape. Be careful when looking into the sky and ask a parent to tell you how to do this safely. <https://www.stem.org.uk/rxywz>

Baking Soda Rocket

Find a small plastic bottle and a cork to fit securely in the top. Tape some straws to the bottle to make it stand up like a rocket then pour a little vinegar or lemon juice into the bottle. Take half a sheet of kitchen paper and pour a teaspoon of bicarbonate of soda onto it and wrap it up. Push the wrapped up paper into the bottle and seal it with the cork. Then stand it up in a safe space outside. Move away quickly and watch what happens. <https://www.science-sparks.com/baking-soda-rocket/>

Translucent, transparent, opaque

How many objects can you find in your house that are translucent, transparent and opaque. How do you know?

Density jars

Pour some different liquids e.g. coloured water, washing up liquid, golden syrup and vegetable oil into an empty glass jar. Observe what happens. <https://www.science-sparks.com/summer-density/>

Mission X – Building a bionic hand

It is difficult and tiring for humans to work in space. Bionic hands that can be remotely operated can help humans work more efficiently in space.

Try making a model bionic hand using cardboard, straws, string and elastic bands. You will need to think about how a human hand works to help you with your design. You can find out more here: <https://bit.ly/2XDvx0j>