SCIENCE FUN AT HOME

Have some fun at home with these science activities from **Science Sparks** and the **Primary Science Teaching Trust**

BEFORE YOU START! Please read through this with an adult:

- Make sure you have read the 'IMPORTANT NOTICE' on the back of this page.
- If you have a space outside that you can use safely, then you can do the 'Try this outdoors' activity outside. Don't worry if not as you could still do it indoors.
- Talk to your adult about sharing the science you have done and if they want to share on social media, please tag **@ScienceSparks** and **@pstt_whyhow** and use **#ScienceFromHome**

LIQUID SCIENCE

1 TRY THIS INDOORS ... LIQUID RACES

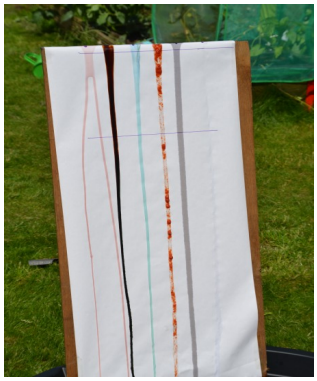
Set up a ramp by leaning the card, plastic or wooden board against the back of a chair. You might want to cover it with white paper so you can see the liquids more clearly, and it is good idea to put a cloth on the floor under the ramp. Put spoons of different liquids at the top of the ramp and time how long they take to run down to the bottom. Try to pour the same amount of liquid down the ramp each time.

You will need

- Timer or stopwatch
- Thick card, plastic or wooden board to use as a ramp
- Different liquids, e.g. whole milk, orange juice, chocolate sauce, ketchup, cooking oil, treacle
- Cornflour
- Plastic bowl
- Water and spoon

WHAT DO YOU NOTICE?
Things to talk about ...

Which liquid reaches the bottom first? And last? What do you notice about the liquids that take the longest or flow most slowly? What do you notice about the liquids that flow most quickly? What happens when you change the angle of the ramp – does this affect how quickly the liquids flow?

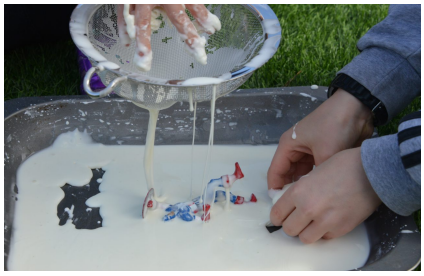


2 TRY THIS OUTDOORS .... IS IT SOLID OR LIQUID?

This activity can be very messy. It is a good idea to wear old clothes or an apron.
Put 4 tablespoons of cornflour into a bowl. Gradually add water, stirring in a small amount at a time, until you have made a very thick liquid. Now you can explore what happens when you do different things with it. Stir it in the bowl with a spoon or your hand, first slowly then quickly. Roll it into a ball in your hand, and see what happens when you stop rolling it. Try dropping a toy into the bottom of it and then lifting it up again.

WHAT DO YOU NOTICE?
Things to talk about ...

Is it easy or hard to stir or roll it? How does mixing it very vigorously compare with stirring it slowly? How hard is it to remove objects from the bottom of the bowl?



3 WHAT IS THE SCIENCE?

All liquids have a property known as **viscosity**. This is a measure of how much the liquid resists changing shape, or flowing. A thin liquid like water has a low viscosity and flows easily. A thicker liquid like ketchup has a higher viscosity and so flows more slowly.

When you mix cornflour with water and stir it slowly, the particles of cornflour and water can move around each other easily so the mixture will flow. If you use a sudden stronger force, like stirring quickly or hitting it, the particles of cornflour clump together which stops it from flowing, and this makes it behave like a solid. This kind of liquid is called a non-Newtonian liquid. Sand mixed with water is another example. It is easier to run across wet sand than it is across dry sand. But if you stand still on wet sand you will start to sink.

4 MORE ACTIVITIES YOU COULD TRY

FUN WITH LIQUIDS - KITCHEN SCIENCE ACTIVITIES https://wowscience.co.uk/kitchen-science/

WATERPROOFING EXPERIMENT https://www.science-sparks.com/waterproofing/

WHAT DISSOLVES IN WATER? https://www.science-sparks.com/exploring-which-solids-dissolve-in-water/

SCIENCE TOP TIPS TO HELP WITH YOUR COOKING!
https://www.nationalgeographic.co.uk/family/2020/05/stem-tricks-to-teach-your-at-home-cooks