

ACTIVITY 2- Is it Liquid or Solid?

Materials

- Large bowl
- Spoon
- Food colouring
- 1 cup water
- 2 cups cornflour

Hi, my name is Emma I am a STEM Ambassador and work in the Westlakes Laboratories. Today I am going to show you an exciting experiment you can do at home **“but remember to ask an adult to help you.”**

You can watch how I got on at

www.cavendishnuclear.com



Method

- When I was young, I had an amazing book that first introduced me to chemistry called ‘homemade slime and rubber bones’, and this is one of the experiments from that.
- We are going to make something called a “non-Newtonian fluid”, which is something that, whilst sat still appears as a liquid, but when force is applied to it acts as a solid.
- We are going to take 1 cup of water in a large bowl and add 2 cups of cornflour, constantly stirring until it becomes really difficult.
- You can also add some food colouring if you like!
- Once the cornflour and water are combined, you should be able to pick it up and play with it... stretch it, smack it, poke it and see what happens.

What is happening here is that the mixture we have made has the properties of both liquids and solids. The molecules that make up the starch in cornflour are very long and floppy, which means that they take on different shapes as gravity pulls on them, or as you mould them. They also absorb a lot of water, which makes the ‘liquid’ seem very hard.

If you have enough of this, you could even work on it. This was something that was done on the programme Brainiac - where Jon Tickle walks on custard, which you can look up on YouTube: <https://www.youtube.com/watch?v=Iz9KnPZWOGs>