

Solid, Liquid and 'Goo' Experiments.

In these three experiments you can find out about solids, liquids and a strange substance called 'goo', which is somewhere in-between the other two! Each experiment follows on from the last.

Equipment needed for the three experiments.

Cup
Big bowl
Spoon
Plate
Food colouring
Cornflour
Small objects (like coins, paperclips, leaves)

Experiment 1- Make some 'goo'!

Method

1. Pour two cups of cornflour (cornflour is a solid) into the bowl. Add a few drops of food colouring to a cup of water (this is a liquid) and pour this into your bowl.
2. Mix the ingredients together with your hands, until they are well blended.
3. How does the mixture you have made feel in your hands?
4. Scoop up a handful of the mixture. Does it stay in your hands? Or does it dribble through your fingers? Do you think the mixture is a solid, a liquid, or is it now goo?
5. See if you can make a ball by rolling the mixture between your hands. Can you roll it quickly, can you roll it slowly?
6. Try punching and poking your mixture, does it feel hard or soft?
7. Try to stir the mixture in the bowl, what happens?

The science behind the experiment.

Goo can act like both a solid and a liquid. Cornflour is made of lots of long, stringy particles. When the goo is rolled quickly or punched, the particles push-back so the goo feels solid. If the goo is dribbled, the particles slide over each other, so it feels like a liquid.

Experiment 2 – make some slime.

Method

1. Take the goo (from the previous experiment) and add another cup of water, with a couple drops of food colouring.
2. Try rolling and stirring the mixture. What happens now? Do you now have goo, or have you made slime? What does it feel like?

The science behind the experiment.

When more water is added to the goo, it turns into a slimy liquid. The cornflour's particles have become more slippery, so they slide over each other more easily.

Experiment 3 – Dry slime.

Method

1. Pour a thin layer of your slime (from experiment 2) onto a plate.
2. Gently press some objects into the slime, such as a coin, a paperclip, or a leaf. Do you have any other small objects you could use? Don't move the objects once you've placed them.
3. Leave the plate of slime and objects somewhere warm overnight (or perhaps leave in the sun all day).
4. In the morning carefully lift the objects out. What is left behind on the plate? What shapes can you see? Is the slime now a liquid, a goo, or a solid?

Science behind the experiment.

The liquid (water) in the slime slowly evaporates overnight, it has turned into a gas and floated away in the air. Only the dry cornflour and food colouring is left. By leaving objects in the slime, you can see imprints of their shapes.