

Exciting atoms

Ever wondered what is actually happening when materials change state? The atoms in a solid are packed closely together, making a rigid structure. When you heat up these atoms, you are giving them more energy, so they become more excited and energetic. Eventually, they break apart from one other and are free to move around. At this point, the material becomes a liquid. When we heat a liquid, the atoms become even more excited and energetic, and move further apart, moving around each other like balls in a raffle tombola - at this point the material has become a gas.



Did you know?

There is water vapour (water in the form of a gas) in the air all around us. When air touches cold things, like cold windows, the water vapour cools down and changes from a gas to a liquid, forming tiny droplets of water on the windows.

Gloopy Slime

Make slime that can't make up its mind whether it's a solid or a liquid!

You will need:

- Cornflour
- Water
- Mixing bowl
- Food colouring (optional)



What you do:

Use your hands to mix a roughly equal quantity of cornflour and water, until it feels like honey. Add a few drops of green food colouring if you want to make it look really slimy! Have a play around with your slime. Do you think it's a liquid or a solid?

You should find...

The slime feels like a liquid when you move your finger slowly around. Try hitting the slime with your fist and you'll find it acts like a solid. If you get the mixture just right you might be able to roll it into a solid ball in your hands, but as soon as you stop rolling it, it will dribble through your fingers like a liquid - weird!

Cornflour is an odd material. It behaves both like a liquid and a solid. Scientists call materials which act in this strange way 'non-Newtonian fluids'.

