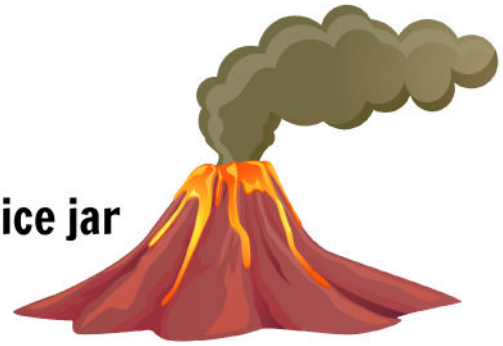
UNDERWATER VOLCANO

You'll need

Cold water
Hot water
Large jar
Food colouring
Small conical flask or spice jar



Instructions

Fill the large jar, about ¾ full, with cold water.

Carefully (ask an adult to help) fill the smaller container close to the top with hot water and add a few drops of food colouring.

Carefully lower the small container into the large jar. Watch as the warm, coloured water rises up into the cooler water above.

If you're using a spice jar with small holes, you'll need to shake the jar to allow any air bubbles to escape.

What's happening?

The warm water rises as when liquids and gases are heated, they expand. This means they take up more room but have the same mass, so their density is less than when they are cool. The warm water rises up, and cooler, denser water fills the space. This leads to a convection current as the process is repeated over and over again.

Convection currents play an important role in the movement of magma in the Earth's crust and mantle layers. Heat from the Earth's core warms the magma closest to it. The hot magma rises up through the mantle, cools as it gets closer to the crust and sinks again. As the magma sinks, it can move tectonic plates across the surface of the Earth.