DIY Lava Art

What Do I Need?

- A 500ml bottle (clean)
- 300ml of warm water
- 50ml of oil e.g. sunflower oil
- 50g of salt
- Food dye

Skill Level:

Easy

Time

5 minutes

How Do I Do It?

1. Remove the label and cut the top off your bottle.
2. Pour the warm water into the bottle and add a few drops of food dye.
3. Slowly pour the oil into the bottle; it should float on top of the water.
4. Sprinkle the salt on top of the oil.
5. There should be blobs moving up and down in your water.

Continued overleaf

DIY Lava Art (continued)

Safety Advice:

IMPORTANT GENERAL SAFETY NOTE FOR SUPERVISING ADULTS. This Terrific Scientific investigation has been devised so that with adult supervision, reasonable care and by following the instructions provided, no special safety equipment or knowledge is required to enjoy the experience safely. These safety reminders are designed to assist the supervising adult when planning and carrying out the investigation. Please read the instructions fully before starting.

- This investigation should be carried out under adult supervision.
- Get an adult to cut off the top of the bottle.
- Only use warm water from a tap, not hot water from a kettle.
- It is advisable to do this investigation on a tray in case the bottle falls over.
- When you've finished, try and pour off the oil and place it in your compost or waste bin rather than down the sink.

What's Happening? The Sciency Bit:

The oil sits on top of the water as it is lighter (less dense) than the water. The salt is heavier than the oil so it sinks down into the water. As it sinks it takes some oil with it. These are the lava blobs that you see sinking down. Soon though the salt dissolves in the water so the lava blobs become lighter and float back to the surface, creating a lava effect.

The amounts of water, oil and salt do not have to be exact but this is a great opportunity to practise measuring volumes and weights. Use a measuring jug to get exactly the right amounts.
Why does the oil float? Because it is lighter (less dense) than the water.
How do we get oily plates and cooking pans clean? Washing up liquid makes the oily bits come off and go into the water to get everything clean.
At the end of your investigation, see how much salt you have at the bottom of your bottle. Some of it will have 'disappeared'. It has dissolved into the water. We say it has made a solution. Sea water contains disolved salt, that's why it tastes awful - yuck!

My Lava Art Doesn't Work What Can I Do?

- I can't see any blobs: You may have put too much food colouring in the water. Hold a blank sheet of white paper behind the bottle, it may help to see the blobs.
- No blobs sank to the bottom: If you sprinkled fine grains of salt into the water it may not have taken up any oil but fallen through it. Put more salt in but this time spread it more thickly.