

St Mary's Science... at home!!

April

Use density to create a funky lamp!

Materials:

- A clean plastic bottle, try to use one with smooth sides
- water
- Vegetable Oil (or you could use baby oil instead)
- Fizzing tablets (such as Alka Seltzer)
- Food Colouring

Instructions:

1. Fill the bottle up about on quarter with water.
2. Pour the vegetable oil in the bottle until is almost full. You may want to use a measuring cup with a spout or a funnel. You may have to wait a couple of minutes for the oil and water to separate.
3. Add a few drops of your favourite food colouring. Watch as the colour sinks through the oil. Did your drops of colour mix with the water immediately or float in between for a few minutes?
4. Break your fizzy tablet in half and drop part of it into the bottle. Get ready ... here come the bubbly blobs!

You can even get a flashlight, turn off the lights and drop in another half tablet. This time shine the flashlight through the lava lamp while the blobs are bubbling!

How it Works:

The oil floats on top of the water because it is less dense or lighter than water. The food coloring has the same density as the water so it sink through the oil and mixes with the water. When you add the tablet it sinks to the bottom then starts to dissolve. As it dissolves it makes gas, carbon dioxide. Gas or air, is lighter than water so it floats to the top. The air bubbles bring some colored water with them to the top. When the air comes out of the colored water blob, the water gets heavy again and sinks. It does this over and over again until the tablet is completely dissolved.

Extra Experiments:

What happens if you put the cap on after dropping the fizzy tablet in? What if you drop a whole tablet in? When it stops bubbling, try sprinkling some salt into your lava lamp. What happens?