



Try This **EXPERIMENT** @ Home!

Build your own Lava Lamp!

You will need:

- A clean, transparent bottle or cup (an empty soda or water bottle is perfect!)
- Water (room temperature)
- Oil (try different types)
- Fizzing tablets (anything that fizzes in water will work!)
- Food colouring



Step 1: Fill your bottle with oil until it is just below $\frac{3}{4}$ full.

Step 2: Add about 10mL of coloured water into the oil and let it settle to the bottom of the bottle.

Step 3: Drop half a fizzy tablet into the mixture and observe the reaction occurring in the bottle. The water should fizz and bubble, rise through the liquid and slowly falling back to the bottom of the container.

Step 4: When the reaction has finished, you can add another half tablet and watch the reaction again!

STOP & THINK – Why do the oil and water repel each other? Why does the oil always move to the top of the bottle?

Why is this happening?

Water is denser than oil, meaning that it contains more matter. Because of this, water will sink below oil when they are placed together. The oil and water won't mix together because water molecules are more attracted to each other than to oil molecules. This would cause oily blobs to move around your bottle if you were to turn it upside down.

When you add the fizzing tablet into your lava lamp, carbon dioxide is introduced into the water, allowing the water to float to the top of the container. When the carbon dioxide bubbles pop, the water – being the heavier substance – returns to the bottom of the container.

