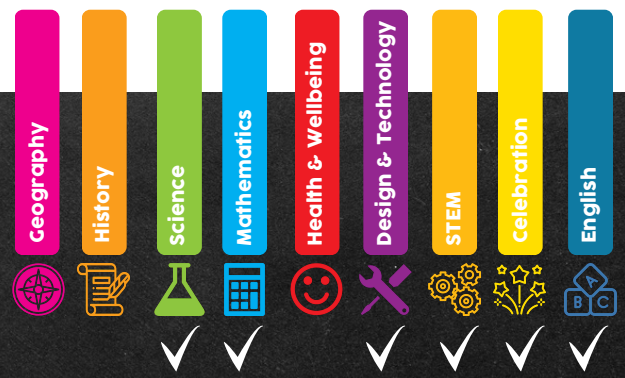


Supreme Incursions

Fireworks In A Jar



Independent Inquiry



25 Minutes



Grade Foundation-2

It's time to celebrate! Here's a simple Science experiment to help your children understand some basic principles of **density**, **buoyancy**, **dissolving** and **mixing materials** in a quick and engaging way.

The aim

- To learn how different materials have different properties.
- To understand that materials react in different ways when mixed.

What you will need

A small-medium sized empty jar

A variety of coloured dye

Warm water

3 tbsp of vegetable oil

A small bowl

Pipette



Watch the video

Scan the QR code to watch the instructions



Follow these steps

- Step 1** Fill the jar $\frac{3}{4}$ full of warm water.
- Step 2** In a separate bowl place 3 tbsp of vegetable oil.
- Step 3** Place a couple of drops of coloured dye into the oil. Repeat with multiple colours.
- Step 4** Mix it gently with a fork (just enough to disperse the food colouring a little). Notice how the colouring doesn't mix with the oil, instead it breaks it into smaller dots!

- Step 5** Predict what might happen when you mix the water and oil. Gently pour the bowl mixture into the jar.
- Step 6** Observe as the oil settles at the top. The food colouring will shoot down and mix into the water, creating a "fireworks" effect!
- Why won't oil & water mix?
 - Why do we use warm water?
 - Repeat this experiment using cold water. Do you notice any differences?

The Science behind it

The oil does not mix with the water because it is **less dense** (less compact or heavy). Instead, it floats on top. The food colouring is **more dense** because it is **water-based** (similar properties to the water). This causes it to fall through the oil and mix into the water. Once the food colouring reaches the water, it starts to **dissolve**, making the fireworks effect. **Warm water**, has **more energy** than cold water, causing the reaction to move quicker.