

# FIREWORK IN A GLASS

## You'll need

Vegetable or sunflower oil  
Warm water  
Food colouring  
Glass or jar



## Instructions

Fill the glass or jar about 3/4 full of warm water

Carefully pour a small layer of oil onto the surface of the water and leave to settle.  
Note that oil and water don't mix!

Carefully drop small amounts of food colouring into the jar. You should see the food colouring drop through the oil into the water leaving colourful trails behind.

## Extension Task

Try with colder or warmer water, is the display different?



## Why does it work?

Food colouring is more dense than water so sinks to the bottom of the glass leaving trails (resembling fireworks) as some of the colour diffuses into the water.

The water based food colouring forms a bead shape in the oil as oil is hydrophobic (water hating). Oil molecules are more attracted to each other than water molecules so repel the food colouring. Surface tension between water molecules pulls them into the coloured spheres you see in the oil.