

Fireworks in a glass

Questions to consider:

Using oil, water and food colouring, can you make fireworks in a glass?

What colours are you going to add to the oil?

What happens to the oil when you pour it on top of the water? Why?

Where does the food colouring go? Why?

Have you created any new colours?



You will need:

- Food colouring (various colours)
- Warm water
- Oil
- Two empty glasses/glass jars
- Fork

Method:

1. Make sure your glasses/ jars are clean
2. Pour warm water into a glass/jar until it is about 3/4 full.
3. In the second glass/jar add three spoons of oil and four drops of one of your chosen food colourings.
4. Now add different colours of food colouring to the oil
5. Using the fork, mix together the oil and food colouring to spread the colours through the oil
6. Finally, pour the coloured oil into the glass of warm water and watch for the 'firework' display to start.

English links:

- Children could write a set of instructions for somebody else to complete the experiment.
- Children could write an explanation about what they did and what happened.
- Children could write a description of what they saw in the glass.
- Children could write up the full experiment including: prediction, method, diagram, explanation and conclusion.



Art links:

- Children could make a sketch of the fireworks in the glass and add detail using shading.
- Children could use pastels, crayons or paints to create an image of the 'firework' in the glass.
- Children could take a picture of the experiment, cut the picture in half and draw the opposite half using a range of artistic styles/resources.

The science explained:

- Oil and water do not mix
- Oil is less dense than water (meaning there is less of it in the same volume) and therefore it floats on the top of the water in a layer.
- The food colouring is water based and therefore does not mix with the oil. Instead it sinks through the oil into the water below.
- The addition of the colouring makes the food colouring heavier than the water so it sinks to the bottom leaving trails (resembling fireworks) as some of the colour diffuses into the water.