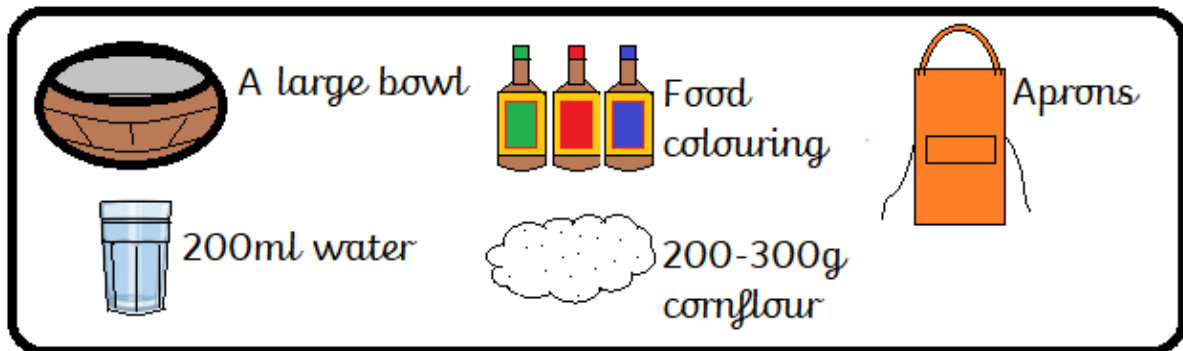


OMS Mastery Award in Science

A scientist is someone who gathers and uses research and evidence to make and test hypotheses. To earn the Science Mastery Award at OMS, you must read and answer questions about important scientists and complete two of the following experiments at home, demonstrating and explaining your understanding of your chosen investigations.

Cornflour Slime

You will need:



Method:

1. Pour the cornflour into the bowl.
2. Pour the water in, mixing slowly as you go. Keep adding more water until the mixture becomes thick (and hardens when you tap on it).
3. Add a few drops of food colouring to make your slime the colour you want it.

Conclusion:

The mixture is now a non-Newtonian liquid. What happens when you handle it – can it be squeezed or spread? Explain what you think a non-Newtonian-liquid is - for example, how is it different to other liquids?

Paper Towel Colour Mixing

You will need:



Kitchen roll



Plastic glasses
and water



Food colouring in
primary colours

Method:

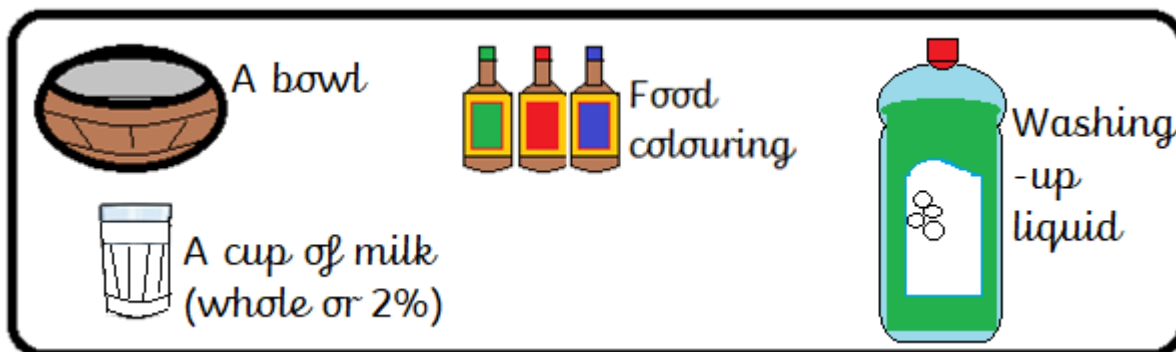
1. Put red food colouring into one glass and blue food colouring into another glass. Add water to both glasses.
2. Using 1-2 sheets of kitchen roll, roll length ways into a tube.
3. Bend in half and dip one end into each glass.

Conclusion:

What happens to the red and blue colouring? What happens if you use other colours? Does the water travel fast or slow – is it possible to change the speed? Define the word *absorbent*.

Rainbow Colour Mixing

You will need:



Method:

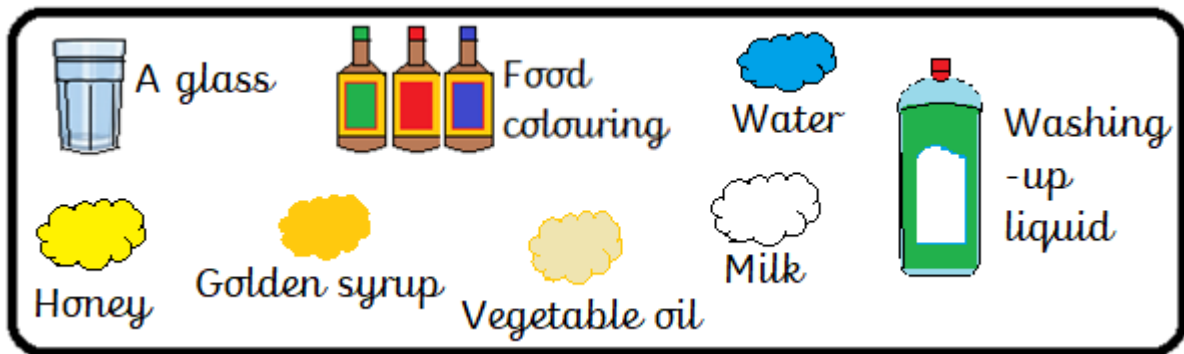
1. Carefully pour a cup of milk into a bowl.
2. Taking care not to mix the colours, drop three drops of one food colouring at one side. About a third of the way around, add three drops of another colour and another third of the way around, add three drops of another colour.
3. Next, squeeze a drop of washing-up liquid into the centre of the bowl.

Conclusion:

What happens to the colours? What happens when the washing-up liquid is added? Is the reaction fast or slow – is it possible to speed up or slow down the process?

Fun with Density

You will need:



Often, when we talk about **weight**, we actually mean **mass**. **Mass** is how much matter there is in an object. This experiment focuses on **density** – how much mass there is in a volume/space.

Method:

1. Measure out the same volume of each of the liquids. Colour the water and the milk if you wish.
2. Starting from the bottom, pour in the honey. Make sure it goes into the middle of the glass and that you don't get any honey on the sides.
3. Slowly pour the golden syrup on top, followed by the washing up liquid.
4. Then add the milk, followed by the water.
5. Finally top with vegetable oil.

Conclusion:

What happens to the liquids? Does the liquid with the greatest density sink to the bottom or sit at the top of the glass? Is it possible to float small objects on each layer? Draw a diagram of the experiment.