

What do you think is happening here?

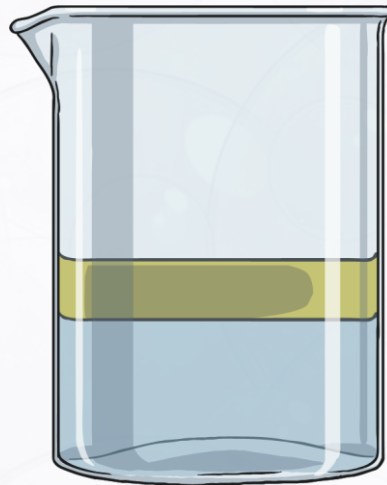


**L.O: To understand why
different liquids react
differently when mixed.**

Mixing Liquids

Different liquids react differently when mixed.
Have you ever seen this happen?

Some fluids will be repelled by one another and will move away from each other. Others will be attracted to one another and form bonds.



We are going to investigate how different liquids react with dish soap.

What equipment do you think you will need?

You Will Need:



2 shallow dishes



Plastic cup



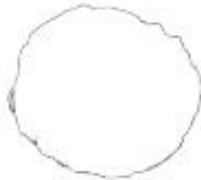
Pipette



Milk



Food colouring



Cotton wool balls



Dish soap

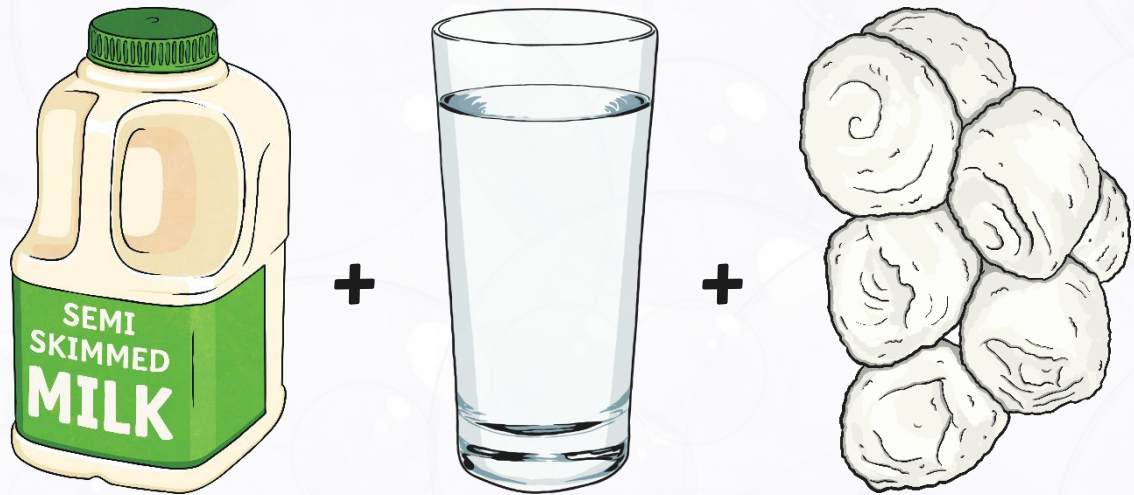
You could also include some other liquids to test.

Predictions

A prediction is a statement about what you think will happen.

What do you think will happen to these liquids when a soap-soaked cotton ball is added?

- Milk
- Water



Which liquid will give the greatest reaction when the soap-soaked cotton ball is added and why?

How to carry out the investigation.

Method:

- 1** Pour some milk into one of the shallow dishes. Ensure that you cover the base of the dish completely. Allow the milk to settle. Do not move on to step two until the milk is still in the dish.
- 2** Using the pipette, add three or four drops of food colouring into the milk. Repeat with each colour.
- 3** Prepare your dish soap by pouring some into the plastic cup. Add a small amount of water and mix.
- 4** Soak the top of your cotton ball in the dish soap. Carefully lift it out, ensuring that it is not dripping too much.
- 5** Place the soaked piece of cotton wool in the center of the milk. Do not move it around, simply place it in the middle of the dish.
- 6** Repeat the experiment in your second dish, using water instead of milk.
- 7** Compare the results.

Changes

You do not have to use food colouring.
Use a spoon instead of a pipette.
Use any bowls/dish/cups that you have.
You can test more than just the two liquids.

How can you make sure it is a fair test?

Fair Test

Use the same amount of each liquid.

Use the same bowl/cup/dish/spoon.

Use the same type of dish soap and the same amount.

Only change the type of liquid.

ANSWERS

The Science Behind It

Different liquids react differently when mixed. Milk consists mainly of water. It also contains fat. Some fluids will be repelled by one another, moving away from one another. Others will be attracted to one another and form bonds.

The soap in the cotton ball is designed to break and split fat up, which is why we use it for washing plates. When the soap interacts with the fat in the milk it breaks its bond with the water and appears to push it to the side of the dish. This is because it has broken the surface tension of the water.



**WASH UP
LIQUID**

twinkl

SOAP