GOVERNMENT OF WESTERN AUSTRALIA

ChemCentre
EXPERT SOLUTIONS

UNLEASH YOUR INNER CHEMIST AT HOME!

1. Pour full cream milk into a shallow dish and let it settle.
2. Add a few drops of food colouring near the centre.
3. Add a drop of liquid soap near food colouring and watch!

WHAT'S HAPPENING?

Oil does not dissolve in water by itself.
Milk is mainly water but also contains droplets of fats/oil suspended in the milk. Soap has the ability to bond with both oil and water, enabling oil to dissolve in water. When the soap enters the milk it will move throughout it, bonding to both the fats/oils and water, pushing the food colouring around and creating beautiful patterns.

1. Mix equal amounts of corn flour and water in a wide bowl.
2. Add a few drops of food colouring and stir slowly.
3. Try scooping, punching, poking and slapping the goo!

WHAT'S HAPPENING?

Oobleck is a non-Newtonian fluid, meaning its 'thickness' or 'ability to pour' (viscosity) changes depending on the 'sudden force' (stress) applied.
Slowly stirring the mixture gives the molecules enough time to move past each other, like a liquid. Apply a sudden stress and the cornflour molecules can't move past each other fast enough, like a solid. ***When you finish, make sure this goes in the bin, not down the sink!**

AT HOME CHEMISTRY

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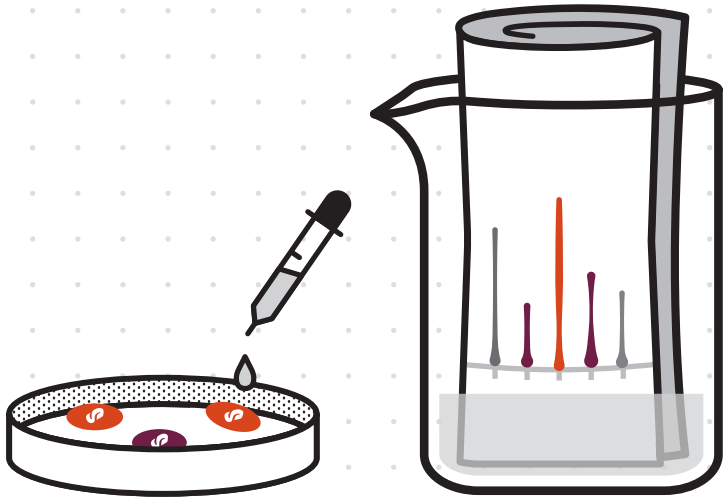

1 Create an ice bath. Fill a container with ice cubes, salt and equal amounts of water.

2 Sit a thermometer and a bottle of purified water in the mixture. The ice bath should be less than zero degrees!

3 Let the bottle sit in the ice bath for 2 hours – don't knock it! Gently remove the purified water and firmly tap the base!

1 Pipette a drop of water onto each skittle. In pencil, rule a line 3cm from bottom of chromatography paper. Mark 5 spots along the line.

2 Use a toothpick to transfer a droplet of coloured water from the skittle to a marking on the line across chromatography paper. Let the paper dry.

3 Wrap dry paper into a cylinder. Sit this in a beaker with 2cm of water and watch! Do each of the colours move at the same rate?

WHAT'S HAPPENING?

A supercooled liquid remains a liquid below its freezing temperature.
For it to become solid, the molecules need to rearrange into an organised structure (crystal lattice). Tapping the bottle provides just enough energy and movement for the arrangement to begin. Once one crystal forms the rest quickly follow, creating an instant slushy!

WHAT'S HAPPENING?

Each colour is made of different molecules.
As the water moves up the paper, each molecule will move with the water at a different rate.
The rate depends on how attracted each of the molecules are to the water and paper molecules.
***Don't have any skittles? Use textas instead!**

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