

Welcome

Eureka! Have you ever thought about becoming a top scientist, making discoveries and inventions that could change the world?

With *Go For It! Experiment* you and your Patrol can make science come alive! Try your hand at our mind-boggling experiments – everything from making your own paper to writing in invisible ink and predicting the future!

Maltesers in the air

Give each member of your Patrol a straw and a Malteser. Now lie down on your back on the floor and try to balance the Malteser on top of the straw. Once it's balanced, try to keep it in the air by blowing.

When you've mastered this, try it without the straw but be careful not to swallow your Malteser. Is it easier with, or without, the straw? Who can keep their Malteser in the air the longest? Remember not to eat your Malteser after it's been on the floor!

You could try using a hairdryer to keep a ping-pong ball in the air. Try it with and without the nozzle to see the changes in the airflow.

Did you know?

Did you know that the forces keeping the Maltesers and the ping-pong ball in the air are similar to those that keep an aeroplane in the air? This is known as the Bernoulli effect, named after the man who discovered it, Daniel Bernoulli of Switzerland.

You will need

- Packet of Maltesers
- Straws
- Hairdryer
- Ping-pong ball

Take it further

Why not play a game of pass the slime? If you lift a small amount of slime and roll it around quickly or squeeze it between both hands, you can pass it along a line of Guides without it turning back into a liquid. Can you get the same amount back to the bowl that you started with?

Can racing

Each member of your Patrol needs a drink can and a balloon.

Set up a start and finish line on the floor and place your drink cans in front of you on the start line so that they'll be able to roll towards the finish. Blow up your balloon and tie it. Rub it on your hair (try using some synthetic cloth like nylon if you prefer). This rubbing action should generate static electricity.

Now hold the balloon behind your can (make sure you don't touch the can with the balloon). It should start to move towards the balloon. See who can be the first to race their can to the finish line. Can you find out why this is happening?

Why not try other experiments with static electricity? Challenge other members of your Patrol to pick up small pieces of paper or tinfoil from the floor. The catch is they can't pick them up by hand, but they do get a balloon to help them!

Take note

This activity won't work as well during damp weather! Don't forget to recycle your cans when you've finished.

You will need

- Empty drink cans
- Balloons
- Some synthetic fabric, such as nylon
- Paper or tinfoil torn into small pieces

Slime

Add three cups of cornflour and three drops of food colouring to the bowl. Add one cup of water and more if needed, stirring slowly. The mixture should be hard to punch but if you touch it gently, it will be very runny.

Slime is a substance called a non-Newtonian fluid, which acts like a solid when treated roughly and a liquid when treated gently. Look for other examples in your home; for example, are these everyday items a solid, a liquid or slime?

- | | |
|------------------|----------------|
| 1 Hair mousse | 6 Mouthwash |
| 2 Ice | 7 Toothpaste |
| 3 Tomato ketchup | 8 Apple |
| 4 Lemonade | 9 Silly putty. |
| 5 Chair | |

See page 15 for the answers.

Take note

This can be very messy so make sure your floor is covered in plastic or easy to clean up!

You will need

- Cornflour
- Food colouring
- Water
- Bowl
- Wooden spoon
- Cup