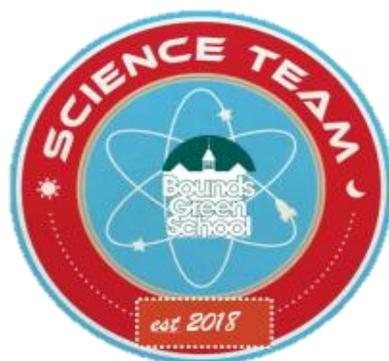


Bounds Green



Present our Kitchen Sink Science Spectacular Experiments!

Kitchen Science is a collection of experiments that families can do at home, with everyday ingredients available from the supermarket or the chemist. We want to show that science does not have to be done in a laboratory, by people in white coats. Instead, science is involved in all aspects of our lives. Remember please do try this at home!

Cornflour slime or Oobleck



What do I need?

cornflour
bowl
teaspoon
water

What do I do?

1. Put about 4 tablespoons of cornflour in the bowl.
2. Add the water a small amount at a time until the cornflour resembles a very thick liquid.
3. Try stirring the cornflour slowly and then quickly. Is it a liquid or a solid?
4. Put some of the mixture in your hands and roll it into a ball; what happens when you stop rolling it?



Science

The cornflour does not dissolve in the water - it creates a suspension called a colloid. The cornflour particles are very fine and roll over each other which means that the mixture acts like a liquid. However, when energy is added to the mixture (by stirring or rolling in the hand) the particles of cornflour lock together and the water between the particles is pushed out of the way, so the slime behaves like a solid.

Top Tips

- ✓ If you don't have cornflour you can use custard. However beware it can turn your skin a little yellow.
- ✓ Try adding food colouring to create different coloured slime, but be warned, this can get messy...!

Lava Lunacy



What do I need?

1 litre plastic bottle
funnel
vegetable oil
water
food colouring
Alka-Seltzer tablets

What do I do?

1. Fill a clean bottle 1/3 with water.
2. Add at least 12 drops of food colouring.
3. Fill the rest of the bottle with vegetable oil.
4. Break up an Alka-Seltzer tablet and add it to the bottle, about half a tablet at a time.
5. Watch the lava blobs!



Science

Water and oil do not mix, as you probably know! This is because water is denser than oil, and therefore sinks to the bottom. The food colouring mixes only with the water, which is why the oil stays its normal colour. The Alka-Seltzer tablet falls through the oil and when it reacts with the water, it creates tiny bubbles of carbon dioxide or CO_2 . This gas floats to the surface, carrying drops of coloured water with it. When the bubbles pop and the gas is released, the denser water sinks back down.

Top Tips

- ✓ Don't use yellow food colouring; it doesn't show up against the oil!
- ✓ Try using salt instead of Alka-Seltzer; add about 2 teaspoons at a time.
- ✓ You can also try adding things like glitter to the mix if you want your lamp to look even prettier!

Fizzy Fountain



What do I need?

- 1 roll of Mentos (mint sweets)
- 2 Two litre bottles of lemonade (preferably diet)
- Plastic box or washing up bowl

What do I do?

1. Put the bottle of lemonade into the plastic container.
2. Slowly open the lid.
3. Open the packets of Mentos.
4. Pour the Mentos into the lemonade, one at a time. (You will only need 2-4)
5. Stand back and watch!



Science

Lemonade has a gas in it called carbon dioxide or CO_2 . The gas is put in the lemonade at the bottling factory under pressure. The surface tension of the lemonade holds the carbon dioxide (CO_2) in. Mentos contain gum arabic; whose proteins break down the surface tension, releasing the gas. When the gas is released quickly, it takes the lemonade with it.

Top Tips

- ✓ Tic Tacs also work instead of Mentos.
- ✓ This is best done outdoors due to the height of the eruption and the mess it creates. If you are going to do it indoors, we would recommend using the bath or the shower as it is very messy.
- ✓ Use diet fizzy soft drinks where available. As diet drinks are more acidic so the reaction is bigger.

Alka-Seltzer Rockets

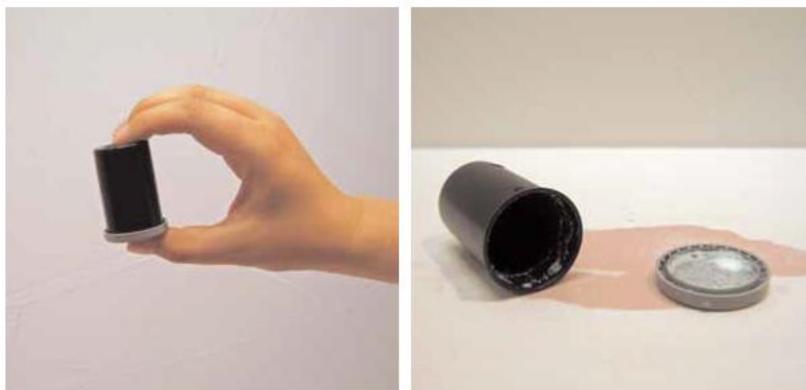


What do I need?

empty film canisters
Alka-Seltzer tablets
teaspoon
water

What do I do?

1. Remove the canister lid and put 2-3 teaspoons of water into the empty canister.
2. Break off 1/4 of an Alka-Seltzer tablet and put it in the lid.
3. Tip the 1/4 tablet into the canister and shut the lid tightly
4. Shake the canister for a few seconds and place lid down on a flat surface.
5. Stand well back and wait!



Science

The Alka-Seltzer tablet reacts with the water and produces a gas called carbon dioxide or CO_2 . Pressure builds up in the canister as more gas is released, and the lid is eventually forced off. Sir Isaac Newton's third law of motion states, 'For every action there is an equal and opposite reaction' and this demonstration demonstrates it clearly: the lid pushes down against the desk, and the canister pushes upwards in the opposite direction, shooting off into the sky!

Safety Warning: Do not stand over the rocket. If it does not go off approach it from the side.

Top Tips.

- ✓ Try varying the temperature of the water, the hotter the water you use the faster the reaction will happen, and the higher the rocket will go!

Blow up Balloon

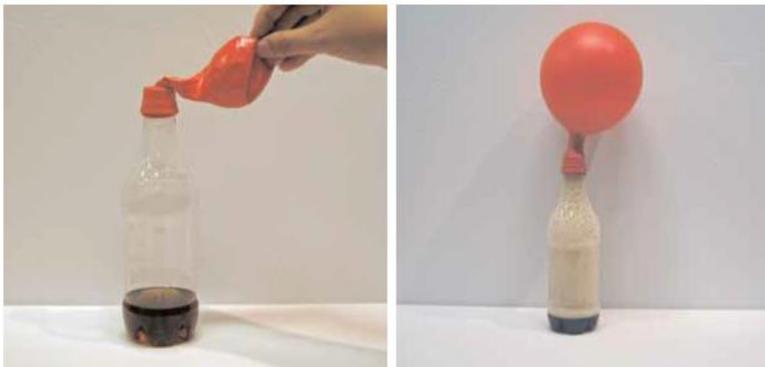


What do I need?

- 1 small plastic bottle
- vinegar
- baking soda/bicarbonate of soda
- 1 balloon
- teaspoon
- a funnel (you can make one from card if you don't have one in your kitchen)

What do I do?

1. Put 1cm of water into the bottle, and then add about 2cm of vinegar.
2. Then use a funnel to put 2 teaspoons of baking soda into the balloon.
3. Carefully place the balloon over the mouth of the bottle, making sure none of the baking powder falls into the bottle.
4. Then lift the end of the balloon and pour all the baking powder into the bottle in one go.
5. Shake it well and then watch the balloon inflate all by itself!



Science

This is a reaction between a base (baking soda) and an acid (vinegar). This reaction produces a bi-product, a gas called carbon dioxide or CO_2 , one of the gases we breathe out.

The gas produced by the reaction cannot escape and therefore fills the balloon.

Top Tips.

- ✓ Remember the more vinegar and baking soda you use the more extreme the reaction!

Super Skittles



What do I need?

- 1 small plastic bowl or plate (white)
- Skittles
- water

What do I do?

1. Arrange the skittles into your bowl or plate.
2. Slowly pour some water into the plate or bowl until the Skittles are just covered.
3. Watch and enjoy!



Science

Skittles are coated in food colouring and sugar. When you pour water over the skittles the coloured coating dissolves spreading through the water. The colour and sugar dissolve into the water and then diffuse through the water, making it the colour of the skittle.

Top Tips.

- ✓ Use a white container so that you can see the full effect of the colours.
- ✓ Be careful not to move your container once the water has been added otherwise the pattern created will be spoilt.
- ✓ Experiment with different water temperatures to see if it makes a difference.
- ✓ Repeat the experiment using a different arrangement of skittles to see how many different patterns you can make.
- ✓ Can you spot the **S** from the sweets. What has happened?
- ✓ Try using other sweets, can you find any that work as well as skittles?