

British Science Week

Whole School Assembly

**Mrs. Fisher and Mr. Wood
introduced the week by
amazing us with some
experiments that can be
tried at home
(ask permission first!)**

What's in the box?

The children asked questions to find out. In less than ten questions, Amelia (5H) guessed correctly – a plant!

Inflate a Balloon

Try it at home (ask an adult to help you)

You will need: a bottle, white vinegar, baking soda, balloons and a funnel.

1. Using the funnel, add the baking soda to each balloon (two people may be needed for this; one person to hold the balloon open and the other person to put the baking soda inside of the balloon).
2. Pour the vinegar into the bottle.
3. Carefully fit the balloon over the bottle opening (be careful not to drop the baking soda into the vinegar yet).
4. Once the balloon is fitted snugly on the nozzle, hold up the balloon and allow the baking soda to fall into the vinegar.
5. Observe the chemical reaction and effect on the balloon – as the carbon dioxide gas is released, the balloon inflates.

Volcano

Try it at home (ask an adult to help you)

You will need: A container (cup or beaker), tray, bicarbonate of soda, malt vinegar, red or orange food colouring, washing up liquid

STEP1 – Fill your container (a cup will do) just over half full with water, add 3 tea spoons full of baking soda and give it a good stir until most of the baking soda dissolves.

STEP2 – Add a good squirt of washing up liquid into the cup and once again give it a stir.

STEP3 – Make sure your volcano is in the kitchen or outside (or somewhere you don't mind making a mess).

STEP4 – Quickly pour in just under a quarter of a cup of vinegar and enjoy your very own volcanic eruption!

Volcano

The science:

The 'lava' is the result of a chemical reaction between the baking soda and vinegar.

In this reaction, carbon dioxide gas is produced, which is also present in real volcanoes.

As the carbon dioxide gas is produced, pressure builds up inside the plastic bottle, until the gas bubbles (thanks to the detergent) out of the 'volcano'.

Adding a bit of food colouring will result in red-orange lava! Orange seems to work the best. Add some red, yellow, and even purple, for a bright display.

Mento challenge

Try it at home (ask an adult to help you)

You will need: cola (diet works best) and mentos
Drop the mentos in cola (outside the house)

Why does it erupt?

The science:

There are many explanations for this phenomenon. Here is one abridged version:

A bottle of soda is full of carbon dioxide (the bubbles.) The bubbles stay suspended in the liquid until the bottle is opened.

When you drop any sort of object into a bottle of soda, bubbles form on the surface of the object. This is called, "nucleation."

Add to this the fact that the surface of a Mentos is textured: it's made up of lots and lots of tiny craters. These tiny pits create a larger surface area and essentially provide many more "nucleation sites."

The Mentos drops to the bottom of the bottle, forming lots and lots of bubbles on its pitted surface along the way. When all of this gas is released it forces the liquid up and out of the bottle in a giant whooshing geyser of sticky soda.

Lava lamp

Try it at home (ask an adult to help you)

You will need: clear bottle or tube, vegetable oil, food colouring, Alka Seltzer or vitamin c tablets, water and salt

[www.stevespanglersscience.com/
lab/experiments/bubbling-lava-lamp/](http://www.stevespanglersscience.com/lab/experiments/bubbling-lava-lamp/)