

AT HOME!

PROJECT NO.12

Mentos Geyser

As family days out are put on hold, we've been thinking how we can make your family days in as much fun as possible.

Eureka! is the UK's only hands-on museum just for children aged 0-11. Full of exhibits to explore, helpful staff to engage with, activities to do and buttons to press. Based in West Yorkshire, we have brought smiles to the faces of over 8 million visitors since 1992. As families can't come to us, we are keen to bring a sample of the Eureka! experience to you.

Our expert staff have come up with a series of experiments that can be done at home, all designed to inspire children to get hands-on, have fun, and learn about themselves and the world around them.

Get experimenting and send us or share your pictures and videos using #EurekaAtHome and we'll share on our social media feeds too.

WE'RE ALL IN THIS TOGETHER!

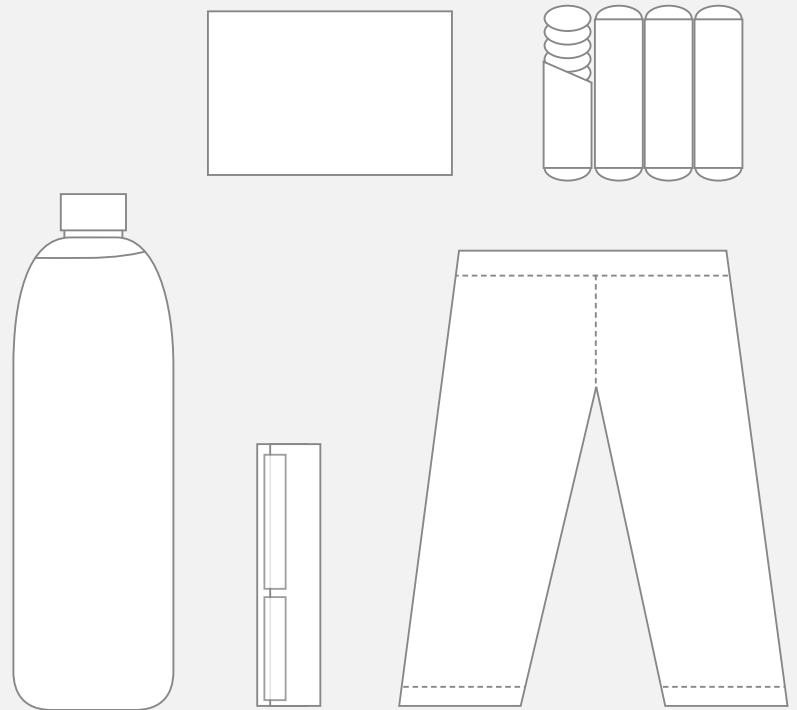


MENTOS GEYSER

This is a messy, sticky experiment. Do this outside, in an area where you can run away from the geyser! Mums and Dads... this will create a sticky mess!

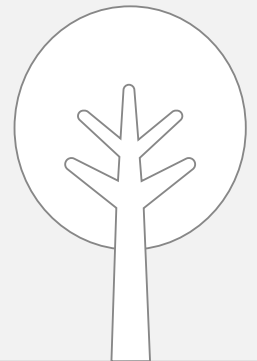
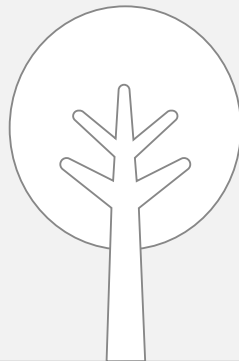
YOU WILL NEED:

- Packets of Mentos mints. Each time you do the experiment you will use 7 mints, so if you have more than a couple of kids to entertain, make sure you have enough for all of them to have a go
- 2 litre bottles of fizzy pop or water. Diet versions of fizzy pop leave less of a sticky mess! Again one bottle per experiment.
- Rolled up cardboard tube which will fit into the bottle opening
- Small piece of flat card
- Old clothes that you don't mind getting wet and sticky!



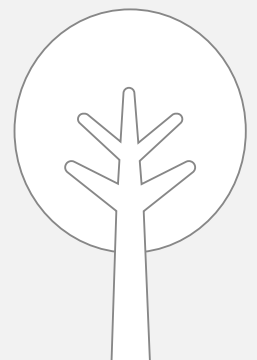
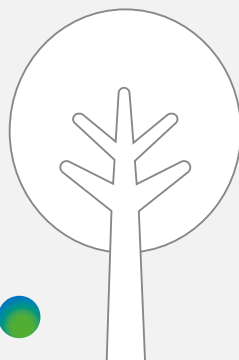
STEP 1:

Find the biggest space in your garden and stand your bottle on a flat solid surface and take off the top



STEP 2:

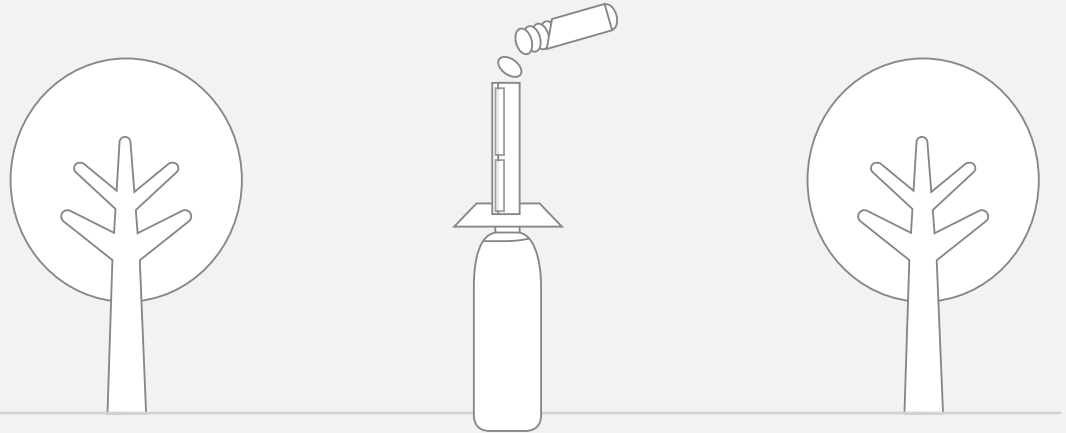
Place your small piece of card across the top of the bottle and Roll a tube of cardboard, big enough to fit 7 Mentos in



MENTOS GEYSER

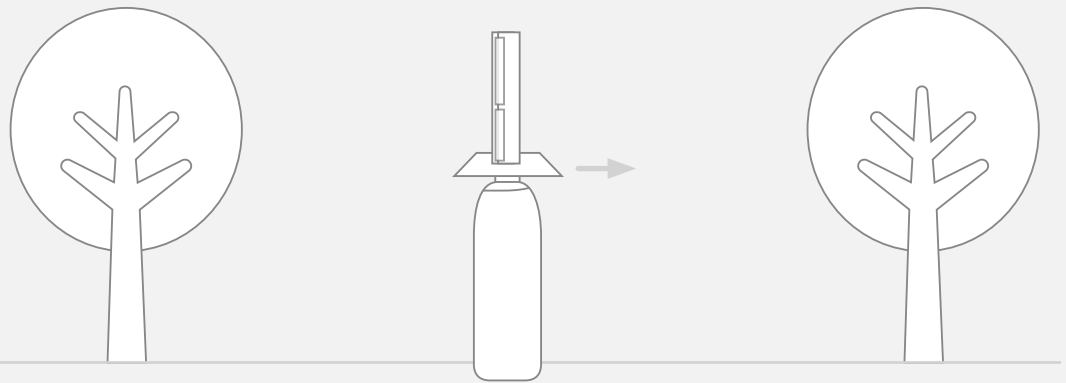
STEP 3:

Put the Mentos in the tube and place the tube over the top of the bottle so it lines up with the bottle opening



STEP 4:

Get everyone else to stand back! When you're ready, pull away the card from between the bottle and the tube of mentos, and let the mentos fall into the bottle

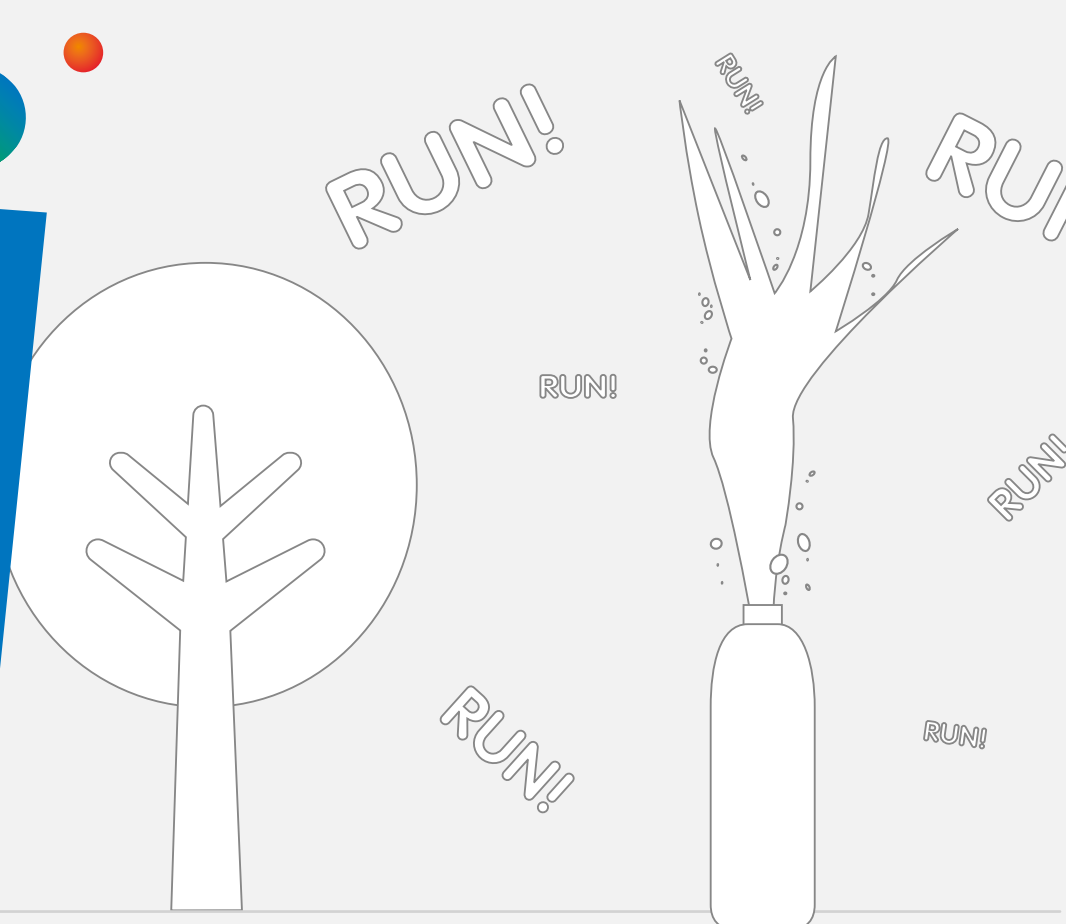


STEP 5:

RUN!

Top Tip:

As you'll be busy running away, you may miss the geyser in all its glory as it will happen really quickly. Get someone to film you on their phone so you can watch it back, and even slow it down to watch in slow motion!



MENTOS GEYSER

Why does this happen?

So why does the combination of Mentos mints and fizzy pop create geysers of fun!?

Fizzy pop is made of sugar or artificial sweetener, flavouring, water, and preservatives. The thing that makes fizzy drinks fizzy is invisible carbon dioxide, which is pumped into bottles at the bottling factory using lots of pressure.

If you shake a bottle or can of fizzy drink, some of the gas comes out of the liquid and the bubbles cling to the inside walls of the bottle or can. When you open the can, the bubbles quickly rise to the top pushing the liquid out of the way. In other words, liquid sprays everywhere.

The surface of mentos mints might appear smooth but looking closely it is actually rough and bumpy. The Mentos mints have tiny little pits like pin pricks all over them – perfect places for carbon dioxide bubbles to form.

As soon as the Mentos hit the fizzy liquid, it starts a physical process call nucleation. Bubbles form incredibly quickly - using the roughness on the surface of the mentos as a nucleation point. The bubbles are formed so quickly they need to escape somewhere and so they escape upwards and outwards. Couple this with the fact that the Mentos mints are heavy and sink to the bottom of the bottle and you've got a double-whammy.

When all this gas is released, it pushes all the liquid up and out of the bottle - shooting it high up into the air!

Another example of bubbles nucleating is if you have a fizzy drink in a glass you can sometimes see a stream of bubbles rising from a single point on the glass. If you looked at that point in the glass through a microscope then you will see a tiny mark on the glass in some way. This is acting as that nucleation point, where the bubbles can easily form.

