

AT HOME!

PROJECT NO.4

Bubble Fun

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.

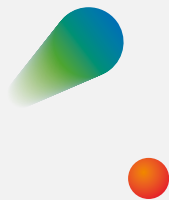
Eureka! is the UK's only hands-on museum just for children aged 0-11. Full of exhibits to explore, helpful staff to engage with, activities to do and buttons to press. Based in West Yorkshire, we have brought smiles to the faces of over 8 million visitors since 1992. As families can't come to us, we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





We think bubbles are amazing and are far more versatile than they first appear! Our recipe for bubbles can easily be made at home and you can use them for a range of different activities. Here is our basic bubble mixture recipe, plus some of our favourite activities and some of the science behind bubbles

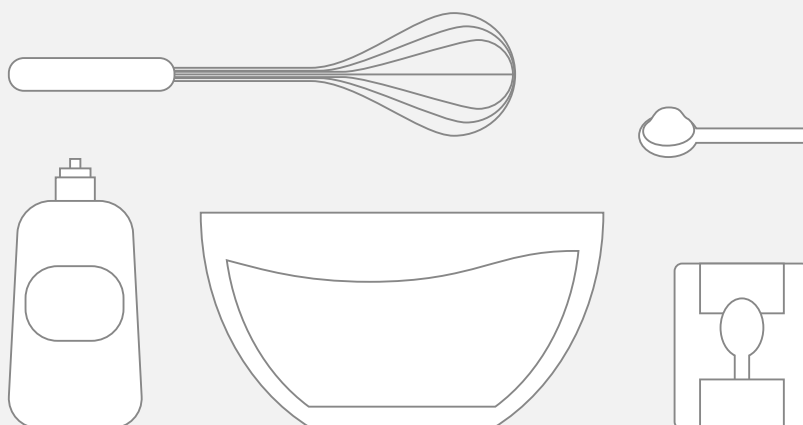


BUBBLE RECIPE

The simplest way to make bubble mixture is to mix half washing up liquid and half water, but we've come up with a more complicated recipe here if you want to experiment.

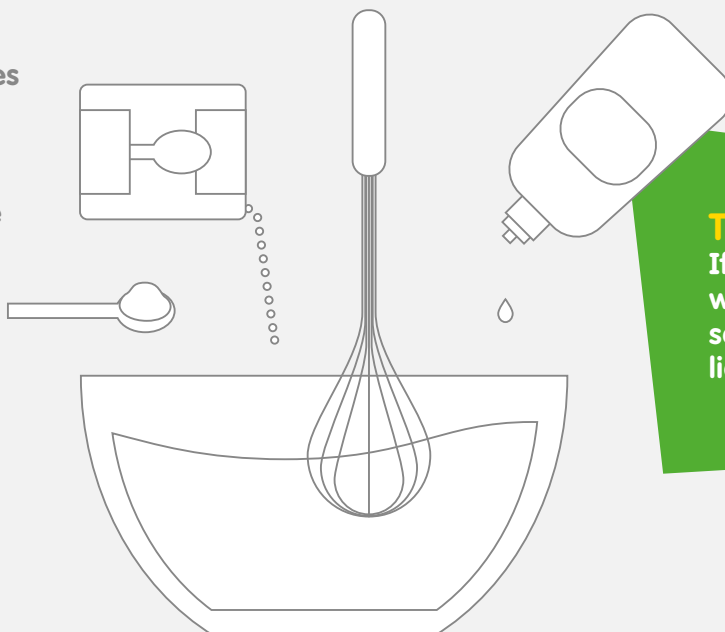
YOU WILL NEED:

- 400ml warm water
- 50ml washing up liquid
- 50g caster sugar
- 1 tablespoon baking powder (not essential only if you have some)
- Whisk



DIRECTIONS:

- Whisk the sugar into the warm water until it dissolves
- Add the washing up liquid and whisk to combine
- Let the bubble mixture settle – ideally for a couple of hours is possible



Top Tip:
If your solution isn't working well, an extra squeeze of washing up liquid will do the trick.



BUBBLE PAINTING

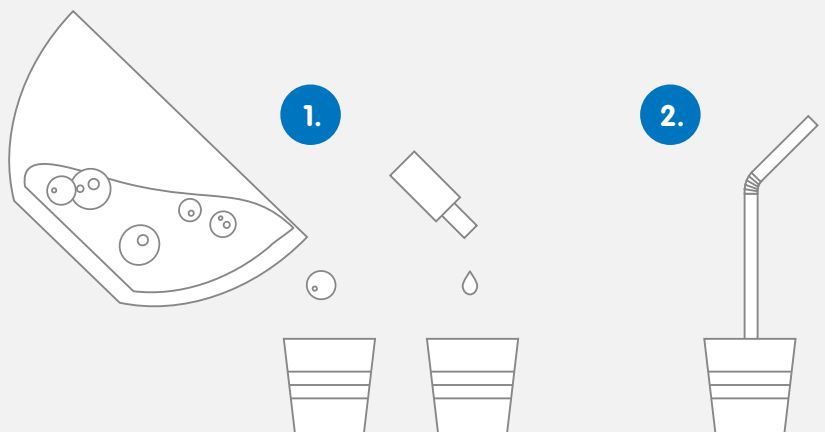
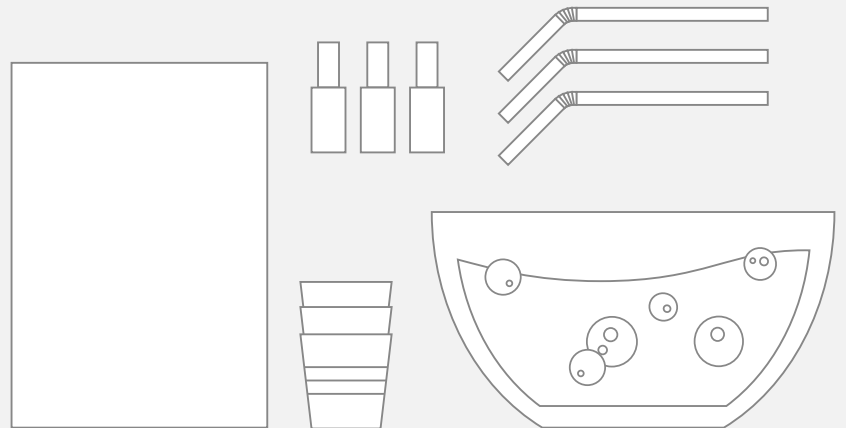
Get creative and colourful with this simple but effective activity.

YOU WILL NEED:

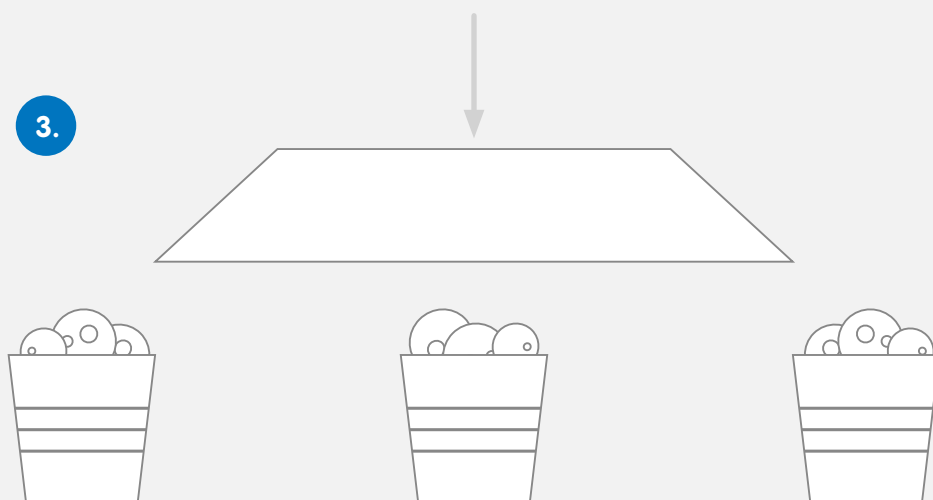
- Basic bubble mixture
- Straws
- Paper
- 3 small cups (or more)
- 3 paint / food colouring (or more)

DIRECTIONS:

1. Pour 50ml of the basic bubble mixture into three separate cups and a few drops of food colouring or paint into each.
2. Use a straw to blow multiple bubbles in each cup so that there are bubbles overflowing each cup.
3. Place a piece of paper gently over the cups of bubbles, each bubble will pop and leave a different pattern.



CREATE YOUR OWN UNIQUE ARTWORK – WHY NOT

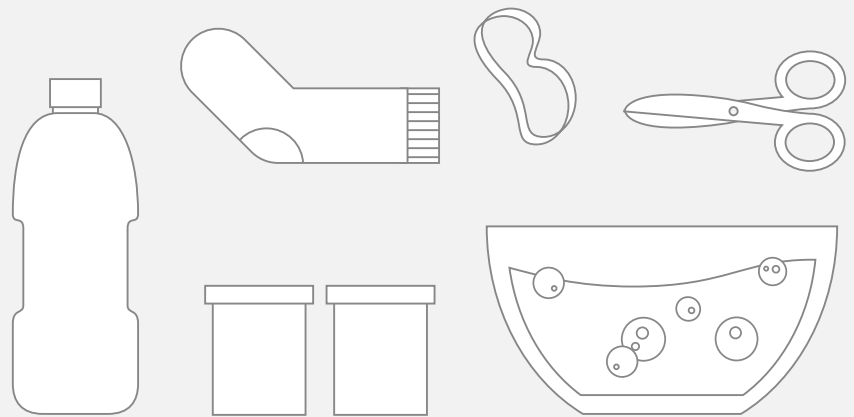


BUBBLE SNAKE

This is an ideal activity to do in the garden or somewhere you can get a bit messy.

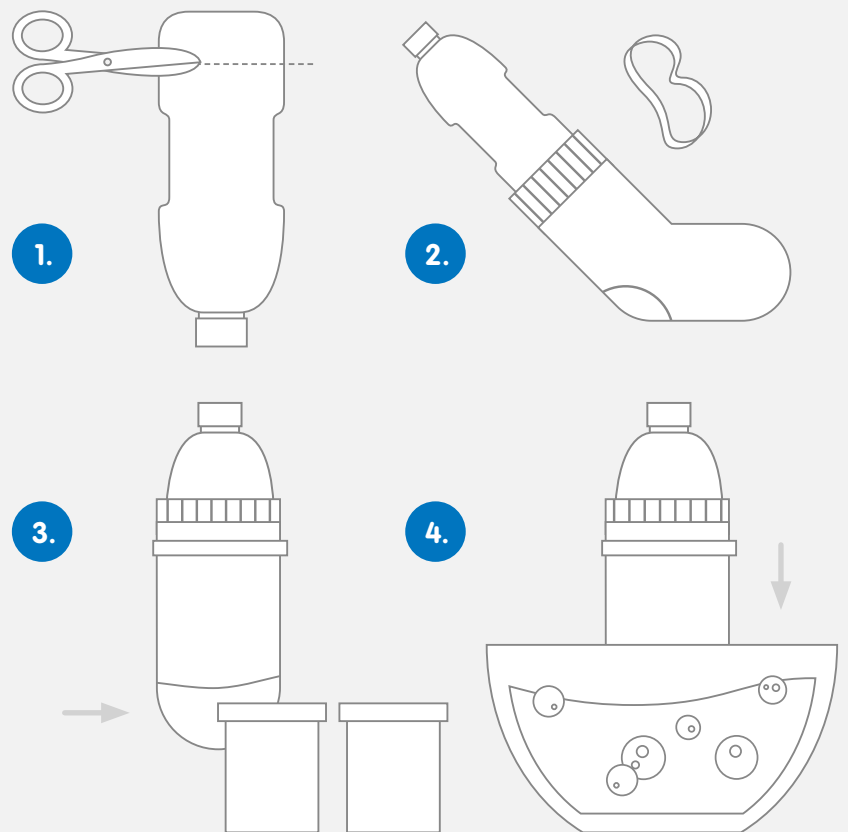
YOU WILL NEED:

- Basic bubble mixture
- Plastic bottle
- Sock or dishcloth
- Elastic band
- Paint
- Scissors

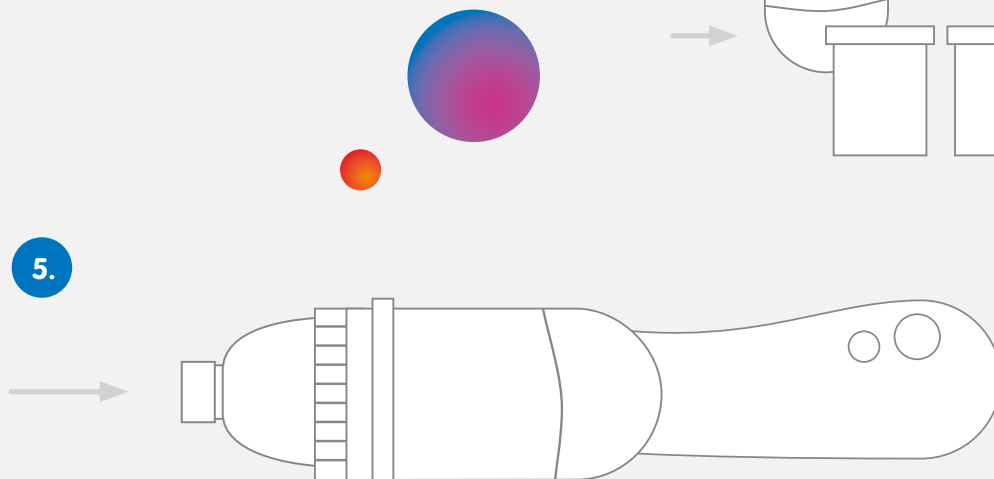


DIRECTIONS:

1. Cut off the bottom of the plastic bottle.
2. Place the sock or dishcloth over the end and hold in place with the elastic band.
3. Paint the end of the bottle with the dishcloth / sock with one or more colours
4. Dip the same painted end of the bottle into the bubble mixture so it is completely covered
5. Blow through the top of the bottle colourful bubble "snake" will appear from the other end



HOW LONG CAN YOU MAKE YOUR SNAKE?



Top Tip:

Try gentle and strong blowing – what effect does that have on your snake?



Investigating bubbles!

Have you noticed that bubbles usually form a round (spherical) shape? Bubbles are made of a thin layer of liquid molecules sticking together. The liquid molecules sticking together forms a barrier to stop the air molecules from escaping. The best shape for the liquid molecules to form is a sphere because it has the smallest surface area. This is known as surface tension – which is also how dragon flies can rest on the surface of water. You can also observe surface tension if you carefully fill a glass up to the top with water. Once the water level reaches the top of the glass you can add a little bit more water and it will create a dome of water higher than the top of the glass. Careful not to add too much though! If there is too much water the surface tension isn't strong enough to hold it in the glass and it will go everywhere.

Have you noticed what happens when bubbles merge together? Again, the molecules will work to make the surface area smaller. This causes each bubble to share a wall with its neighbour. If both bubbles are the same size, the barrier they share will be flat

If enough bubbles connect and form barriers, hexagons will appear. This is the most efficient shape for all the bubbles to share the same space. Bees also make hexagons when making honeycomb, this because they are using the minimum amount of wax in their beehives!

