

# The Impossible Balloon Experiment!

One of my favourite science experiments ever and a great way to learn all about air pressure. You can also play a little trick on a (young!) volunteer with this experiment. You've probably got everything you need so let's get stuck in!

## What do I need:

- A plastic bottle (or 2!)
- A balloon (or 2!)
- A pair of scissors

## How do I do it?

**STEP 1** - First off we'll need to build this contraption! Take the lid off your bottle and put the balloon inside.

**STEP 2** - Pull the edge of the balloon round the neck of the bottle to make a seal, as shown.

**STEP 3** - Now you're ready to rock n roll. The challenge is to blow the balloon up. Simple? Give it a try! You can blow as hard as you like but you won't be able to blow the balloon up much!

**STEP 4** - Here's the secret! Use your scissors to make a small hole in the bottom of the bottle! Now try again! Your balloon should puff right up!

## What's going on?

This one's all to do with air pressure. When you start to blow up the balloon, of course it gets bigger. But when there's no hole in the bottle the rest of the air in the bottle starts to get 'squashed'.

There's the same amount of air in the bottle but less and less space for it so the pressure builds up and you can't blow hard enough to inflate the balloon. As soon as you've got that hole the air can escape, the pressure doesn't build and your balloon will blow right up, into a lovely sausage shape!

## More Fun Please - Experiment like a real scientist!

- What difference does it make when you cover the hole with your finger?
- How about making 2 of these and putting a hole in one of the bottles and not in the other and challenging the children to figure out the difference?

