

# Ball Blow Pipe

***Make your own ball blow pipe and learn about Bernoulli's principle with this fun and easy experiment to try at home. Bernoulli was a scientist from the Netherlands in the 1700's who did a lot of work in maths and physics. One of the things he discovered (called Bernoulli's principle) states that fast moving air has lower pressure than slow moving air. This experiment will help you to see that in action, for more science-y explanation!***

## ***You will need:***

- ◆ a 500ml or 1l bottle with lid
- ◆ Kitchen scissors \*adult assistance\*
- ◆ Nail
- ◆ Lighter or hob \*adult assistance\*
- ◆ Tinfoil
- ◆ Straw



## ***Method:***

- ◆ \*With an adults help\* Cut the bottle a few inches from the neck, where it starts to straighten out.
- ◆ Unscrew the lid and place it to one side.
- ◆ \*With an adults help\* Holding the nail with a tea towel or similar, heat the tip over a flame, then push the heated tip into the centre of the bottle lid.
- ◆ Secure the lid onto the bottle section and push the straw through the hole, making sure it is airtight, add some blutac or similar if there are gaps.
- ◆ Roll some tin foil into a ball.
- ◆ Place the ball into the ball blow pipe and blow!



## ***Now try:***

- ◆ Making bigger/smaller tinfoil balls and seeing which works best.
- ◆ Making a bigger hole and using a bigger straw.
- ◆ Using a bigger bottle – is it easier or harder to get the ball to hover? Do you need a bigger straw?

## ***The Science Bit:***

***Bernoulli's principle states that fast moving air has lower pressure than slow moving air. When you blow through the straw you create a stream of fast moving air, the air around it is slower, so has higher pressure and pushes on the ping pong ball from all angles, keeping it inside the stream of air.***