

SCIENCE
CHALLENGE

03

FLOATING PING-PONG BALLS



THE
JAMES
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FLOATING PING-PONG BALLS

The brief

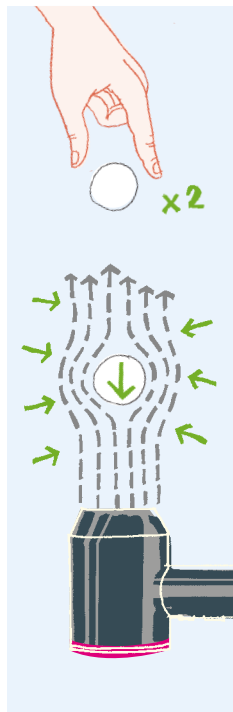
Make two ping-pong balls float in the air flow of a hair dryer at the same time, without hitting each other.

The method

1. Switch on your hairdryer, making sure it is on the cool setting.
2. Hold it with the nozzle pointing upwards.
3. Place one of the ping-pong balls into the stream of air.
4. Try and place another ball into the same stream of air – on top of the first ball.

Materials

Two ping-pong balls
A hairdryer
(on cool setting)



How does it work?

The hair dryer produces a high velocity stream of air with low pressure. The surrounding air is at a higher pressure which keeps the ball inside the stream. When the upward force of the air equals the weight of the ping-pong ball the ball is said to be in 'equilibrium'.

The theory at work here is Bernoulli's principle. This is an equation linking air pressure, velocity and density with particle weight.

