

MONSTER SCIENCES

Making science fun!

AN EXPERIMENT ABOUT

AIR

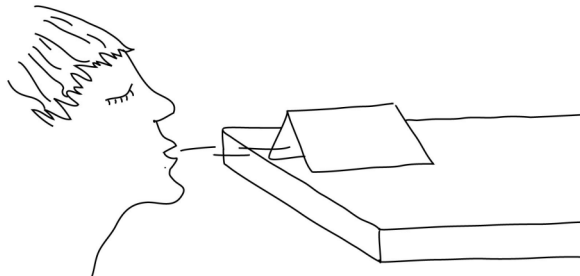
BLOW DOWN THE TENT

What you will need:

- A small piece of paper
- A big breath!

What you will do:

- 1 Carefully fold the piece of paper in half.
- 2 Now stand up the paper like a tent near the edge of a table. **MAKE SURE THE OPEN SIDE OF THE TENT FACES YOU.**
- 3 Now stand over the tent and gently blow directly down onto it. **NOT TOO CLOSE! WATCH WHAT HAPPENS.**
- 4 Bend down so your mouth is level with the opening in the tent and blow a long slow breath through the tent. **WATCH WHAT HAPPENS.**



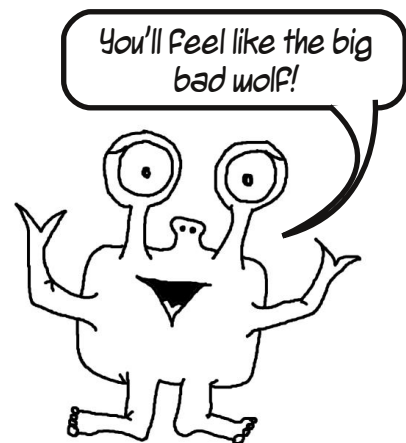
What is going on?

When you stand the tent up on the table, the air pressure inside the tent is the same as the air pressure outside the tent, so it stands upright. Blowing down on the tent doesn't make any difference.

When you blow through the tent you push air out of the tent, which lowers the air pressure inside it. With less pressure holding up the tent and more pressure pushing down on it, it collapses.

Monster Challenges:

- Try blowing on the tent in other ways and observe what happens. You could blow on the side, or blow faster or slower, softer or harder for example.
- Can you repeat this experiment on a larger scale? How are you going to do it? What equipment would you need?



TEACHING NOTES:

Monster Sciences Experiment: Air A08

Topic: Air: Air pressure

Suitable for Ages: 6 -12+

Key Concepts:

Air pressure can be changed by air currents.

Air puts pressure on objects. This pressure can be used to hold them up.

Resources:

- Experiment Description A08 – one copy per student
- Investigation Report IR01 - one copy per student
- A small piece of paper each

Lesson Notes:

Remind students to listen carefully to instructions, and to OBSERVE their experiment.

This experiment is quick and simple but gives students an insight into how the movement of air can affect air pressure. I always begin this lesson by reviewing with students the concept of states of matter, particularly gases. We talk about how the molecules that make up air are floating around and not too tightly packed, so they can move them around.

As a class discuss the experiment prior to undertaking it, and students should complete the sections of their Investigation Report IR01 from "Title to "Hypothesis".

What should happen in this experiment, and why?

When the student blows down on the tent it should wobble but not move. When they blow through the tent it should collapse. This is because blowing through the tent reduces the air pressure under the tent so it is no longer fully supported.