

Resource 1.4

Make a bottled greenhouse

You will require

- Two identical thermometers
- A clear plastic bottle
- Plasticine
- Stop watch

You will need to:

- 1) Place one thermometer in an empty soft drink bottle so that you can see the numbers clearly. Hold it in place and completely seal it with plasticine.
- 2) Take both thermometers outside on a sunny day and place the other thermometer somewhere beside the bottle.

- What is the starting temperature on each thermometer?

Starting temperatures: 1) _____

2) _____

- Record the temperatures every two minutes for ten minutes.

	2	4	6	8	10
Thermometer 1					
Thermometer 2					

- What do you notice?

What's happening?

The temperature inside the bottle warms up faster than the temperature outside the bottle. The bottle acts like a greenhouse, trapping the sunlight and making the temperature inside warmer.

Greenhouse gases are gases released by cars and other vehicles, and from the process of making electricity. When greenhouse gases enter the Earth's atmosphere, they have the same affect on Earth — heating it up like a greenhouse.

Extension

How could you change this activity to test the above explanation?

What other factors do you think might influence the rate temperature increases in the bottle? How might you test this?

Source: CSIRO CarbonKids Understanding Climate Change Unit page 24.