

Activity Description

This is a self-guided activity aimed at aged 10 – 13 pupils (but perhaps younger if suitable).

It consists of:

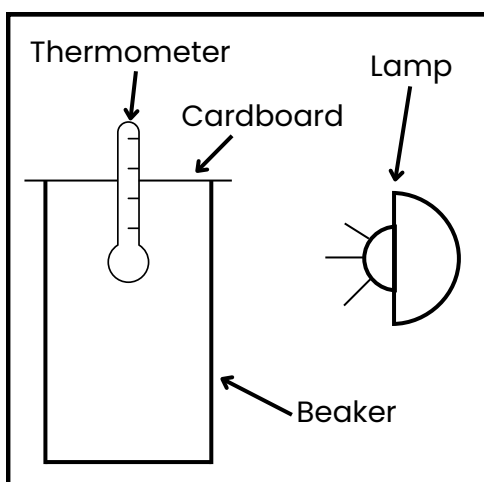
- A practical to explore the greenhouse effect
- Follow-up activities and concepts relating the greenhouse effect to the wider world and climate change.

The Greenhouse Effect Experiment

The greenhouse effect is vital for life on Earth, but what does it really do? This practical involves a short experiment to help students understand the process and some follow up questions to show why the greenhouse effect is important on a global scale.

What Supplies do you Need?

- Lamp (60W or 100W)
- A large glass jar/beaker
- Black Paper
- An Elastic Band
- Thermometer



How to Explore the Greenhouse Effect?

1. Cut out a small piece of cardboard to place over the top of the glass jar/beaker and cut a hole in the centre of it
2. Place an elastic band around the thermometer and insert it through the hole in the cardboard so the bulb is about 5cm below the cardboard
3. Place the lamp 10-15cm away from the glass jar/beaker, with the lamp bulb at the same level as the thermometer bulb
4. Record the temperature of the gas in the jar/beaker at the start and every minute for 10 minutes
5. Cut the black paper so it covers just under half of the inside of the glass jar/beaker and repeat the experiment (measure the temperature at the start and every minute for 10 minutes)

Time/mins	0	1	2	3	4	5	6	7	8	9	10
Temperature/°C (without black paper)											
Temperature/°C (with black paper)											

What does this mean?

- Once you've done the experiments, plot them on a graph and compare the results - what do you see and why do you think they're different?
- Can you do some research into how the greenhouse effect impacts how buildings in different countries are designed?
- How do you think the greenhouse effect impacts climate change?
- Why is the greenhouse effect important for life on Earth?