

## Greenhouse Experiment

### Key Stage 2

#### NC references

##### Working Scientifically

- making systematic and careful observations
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using straightforward scientific evidence to answer questions or to support their findings.

#### Learning objectives

To use modeling to observe and describe the greenhouse effect

#### Teaching ideas

##### Explore

Learn about the greenhouse effect/ global warming and how scientists consider that the increase in carbon dioxide and other gases contributes to the increase in global temperatures. This video could be helpful:

<https://www.youtube.com/watch?v=oJAbATJCugs>

##### Investigate

Complete this observing over time investigation to model the greenhouse effect

##### Resources

- a large, open bowl
- dark cloth or paper
- paper cup
- thermometer or temperature probe
- plastic to cover the top of the bowl. Ideally, this would be a reusable silicone cover or perhaps some wrappers joined with tape or plastic wrap could be reused for this investigation and saved for future investigations)
- A warm, sunny day!

Using two sets of equipment, one without the plastic cover, will help to compare the effects on temperature. Or simply record air temperature alongside the 'greenhouse' temperature.

- Line the bowl with the dark cloth or paper
- Place the paper cup, upside down, on the bottom of the bowl and lay the thermometer on top of the cup.
- Note the start temperature
- Cover the bowl with the silicone cover or plastic cover, ensuring there is a tight seal (you may need to use tape to secure this)
- Leave in a warm, sunny position and observe the temperature over time. You might take readings every half an hour or simply take a final temperature after a couple of hours.
- Record the final temperature in the greenhouse investigation

### **Discuss and research**

This investigation could be a great starting point for discussion and research:

- How is Earth's atmosphere useful in controlling temperatures for life?
- What is the greenhouse effect and how can it be increased? What gases contribute to the greenhouse effect?
- Where does carbon dioxide come from in the atmosphere?
- How could we reduce carbon emissions?
- What could the effects be of an increase in global temperature on a range of habitats?

### **Next steps**

- Support children to write explanations the greenhouse effect or how global warming occurs and the factors that can increase it
- Create a poster to raise awareness of the dangers of increasing global temperature.
- Decide on personal actions that the children/ school will take to help reduce carbon emissions.