

Climate Change

Background

This first activity aims to explore the impact of man-made greenhouse gases on the atmosphere and wider world using a simple experiment to create and trap carbon dioxide.

By the end of the session, learners should be able to:

- Understand what the main man-made greenhouse gases are and where they come from.
- Observe the effects of too much carbon dioxide in our atmosphere within a controlled experiment.
- Apply their observations to the wider world.

The second play-based activity is to help learners understand the term 'Net Zero' by changing how they move 'greenhouse gases' into the 'atmosphere' when presented with emission sources and solutions.

By the end of the session, learners should be able to:

- Demonstrate the Present Day and Future balance of man-made greenhouse gasses in the atmosphere.
- Learners understand how different changes to human activity can help address global warming.

Useful Terms

Term	Definition
Greenhouse Gas	A gas that can trap and emit the infrared heat reflected by the earth's surface when it is heated by the sun.
Carbon Dioxide	The greenhouse gas most responsible for human-caused global warming as a result of burning fossil fuels.
Climate Change	It is the long-term shift in the Earth's average temperatures and weather conditions.
Paris Climate Agreement	A United Nations global agreement of 195 parties to limit global warming. This was agreed and signed in Paris in 2015.
Net Zero	Net zero is the point at which the number of greenhouse gases being emitted into the atmosphere is equal to the greenhouse gases that are being taken out by nature and carbon capture.
Pre-Industrial Levels	This is a term used when comparing emissions and temperatures to the past in order to measure change. Pre-Industrial usually refers to the late 1800s.

Links and Resources

Background and Definitions

BBC Bitesize – [What is Climate Change?](#)

BBC Bitesize – [What is Net Zero?](#)

[United Nations Paris Climate Agreement](#)

[Imperial College of London Experiment Demonstration](#) – Source information for the lesson plan provided in the resource pack.

Flintshire County Council Climate Change Resources

[Climate Change Homepage](#)

[Climate Toolkits](#)

Welsh Government

[Climate Action Wales](#)