

Climate change What is dendrochronology?	Climate change Why is pollen preserved in peat bogs?
Climate change Does a correlation show that one factor causes another?	Climate change Name four greenhouse gases.
Climate change Describe the greenhouse effect.	Climate change Name two human activities that increase carbon dioxide levels.
Climate change What is the source of extra methane from farming?	Climate change Which processes remove CO₂ from the atmosphere?

Peat is acidic, waterlogged and anaerobic, so pollen does not decay.

Using the pattern and width of annual tree rings to date past events and infer past climate.

Carbon dioxide, methane, water vapour, nitrous oxide (and CFCs).

No. Another factor may cause both. A known mechanism and repeated independent data support a causal link.

Burning fossil fuels and deforestation.

Greenhouse gases absorb infra-red radiation from Earth and re-radiate it back, warming the lower atmosphere.

Photosynthesis and dissolving in the oceans.

Ruminant animals and rice paddies (anaerobic decomposition).

Climate change

Which processes return CO₂ to the atmosphere?

Climate change

Why does reforestation reduce atmospheric CO₂?

Climate change

What is extrapolation?

Climate change

Give two limitations of climate models.

Climate change

Give an example of a positive feedback in climate change.

Climate change

How does warming change the distribution of species?

Climate change

How does climate change affect life cycles?

Climate change

What is a timing mismatch?

Growing trees photosynthesise, removing CO₂ and storing the carbon in wood.

Respiration, decomposition and combustion.

Complex system with feedback loops; incomplete data; assumptions about future emissions.

Extending a trend in data beyond the range measured to make a prediction.

Species move towards the poles or to higher altitude.

Melting ice exposes darker surfaces that absorb more heat, causing more melting.

When interacting species respond at different rates, for example food peak and hatching of young no longer coincide.

Development is faster and seasonal events such as flowering and hatching occur earlier.

Climate change

Why can conclusions on climate change depend on who reaches them?

Climate change

How can you judge a scientific source?

Climate change

What is a sustainable resource?

Climate change

Give one advantage and one disadvantage of biofuels.

Climate change

How does reforestation help manage the conflict between needs and conservation?

Check the author's expertise, funding, peer review and whether data support the conclusion.

Vested interests, funding and selective use of data can influence how evidence is presented.

Advantage: close to carbon neutral.
Disadvantage: needs land, which may replace forest or food crops.

One used no faster than it is replaced, so it remains available for future generations.

It provides timber while restoring habitats and removing CO₂, if managed sustainably.