

Climate Change

KS3 Chemistry · Follows the national curriculum

Name _____ Class _____ Date _____

1. Worked example

Name THREE human activities that release carbon dioxide.

Step 1 · Energy

Burning fossil fuels in power stations and homes (coal, oil, gas).

Step 2 · Transport

Burning petrol, diesel and jet fuel.

Step 3 · Land and industry

Deforestation (burning trees) and making cement from limestone.

Answer: Burning fossil fuels, transport, deforestation (also cement making)

Check: All add CO₂ faster than the carbon cycle removes it.

2. Now try one with the steps

Explain the greenhouse effect in three steps.

Step 1 · 1

Step 2 · 2

Step 3 · 3

Answer:

3. Practice

Show your working. The marks tell you how much is expected.

1. Name the main greenhouse gas released by burning fossil fuels. [1]

2. Name ONE other greenhouse gas. [1]

3. Is the natural greenhouse effect good or bad for life? [1]

4. Give TWO human activities that increase carbon dioxide in the air. [2]
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5. What does 'climate change' mean? [1]
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6. Give TWO effects of global warming. [2]
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7. Why does deforestation increase CO₂ in two ways? [2]
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8. Give TWO ways to reduce carbon dioxide emissions. [2]
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9. Why do sea levels rise world warms? Give TWO reasons. [2]
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10. CO₂ rose from 280 ppm to 420 ppm. By how many ppm did it rise? [1]
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11. From 1960 (315 ppm) to 2024 (420 ppm) is 64 years. What was the mean rise per year, to 1 decimal place, in ppm? [2]
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12. Why is the burning of wood from new forests sometimes called 'carbon neutral', while burning coal is not? [2]
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13. Explain why scientists use ice cores to study past carbon dioxide levels. [2]
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14. Suggest why it is difficult for countries to cut emissions quickly. [2]
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4. Before you hand it in

"The greenhouse effect is caused by the hole in the ozone layer."

The ozone hole lets in more UV. The greenhouse effect is about gases trapping heat.

"The greenhouse effect is bad."

The problem is the ENHANCED greenhouse effect from extra human emissions.

Confusing weather and climate.

Climate is the long-term average over decades.

"Greenhouse gases reflect sunlight."

They absorb the infrared (heat) given off by the warm Earth and send some back.