

Carbon Cycle

KS3 Chemistry · Follows the national curriculum

Name _____ Class _____ Date _____

1. Worked example

Name a process that removes carbon dioxide from the air.

Step 1 · Which living things use CO₂?

Plants and algae, in photosynthesis.

Step 2 · Also

Carbon dioxide dissolves in the oceans.

Answer: Photosynthesis (also dissolving in oceans)

Check: Everything else in the cycle mostly ADDS CO₂ to the air.

2. Now try one with the steps

Name THREE processes that release carbon dioxide into the air.

Step 1 · Living things

Step 2 · Decomposers

Step 3 · Humans

Answer:

3. Practice

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

1. Which gas is the main form of carbon in the atmosphere? [1]

2. Which process do plants use to take carbon dioxide from the air? [1]

3. Which process in all living things releases carbon dioxide? [1]

4. How does carbon pass from plants to animals? [1]

5. What do decomposers do in the carbon cycle? [2]
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6. Name THREE fossil fuels. [1]
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7. Which rock stores large amounts of carbon carbonate? [1]
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8. Why do fossil fuels form only very slowly? [1]
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9. Why is the carbon cycle important for life? [2]
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10. What would happen to dead material if there were no decomposers? [2]
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11. Name TWO ways humans have increased the amount of carbon dioxide in the air. [2]
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12. Before 1800, the air contained about 280 parts per million (ppm) of CO₂. Today it is about 420 ppm. By how many ppm has it increased? [1]
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13. What percentage increase is that? (Use the answer to question 12.) [2]
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14. Explain why oceans becoming warmer could add to the CO₂ in the air. [2]
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4. Before you hand it in

"Plants don't respire; they only photosynthesise."

Plants respire all the time; they photosynthesise only in the light.

"Decomposition doesn't release CO₂."

Decomposition returns carbon dioxide to the air through the respiration of microorganisms.

"Fossil fuels are renewable because plants grow back."

Fossil fuels are finite.

"The carbon cycle only involves living things."

Include oceans, limestone and fossil fuels stores.