



QUESTION WORKBOOK

The carbon cycle, and what people did to it

Ecology, populations and environmental change · Unit B20

OCR A 4.2.1, 6.3.1 · Edexcel A 4.1, 5.12, 5.13, 5.14, 5.15, 5.16, 5.21, 5.22, 6.1, 6.2 · Edexcel B 10.4 i

5 questions · 16 marks

PRINT EDITION

Every question in this book has a code beside its number.
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SECTION B · Standard, 3 to 5 marks

B1
CCPD-Q1 The northern limits of several British insect species have moved north over the past fifty years. Suggest why, and suggest why this may still lead to a fall in biodiversity overall. [4]

B2
CCPD-Q2 Name the process that transfers carbon from the atmosphere into living organisms, the process that returns it from living organisms to the atmosphere, and the process that returns carbon locked in dead organisms to the atmosphere. [3]

B3
CCPD-Q3 Explain how coal was formed, and explain why the carbon in it had not been returned to the atmosphere before people began to mine it. [3]

- B4** CCPD-Q4 Photosynthesis removes about 120 gigatonnes of carbon from the atmosphere each year and respiration and decomposition return about 120 gigatonnes. Burning fossil fuels adds 9.5 gigatonnes and deforestation adds 1.5 gigatonnes, while oceans and land plants absorb 6.0 gigatonnes of the addition. Calculate the mass of carbon added to the atmosphere each year, and calculate this as a percentage of the carbon removed by photosynthesis. [3]

- B5** CCPD-Q5 The concentration of carbon dioxide in the atmosphere falls slightly during the northern hemisphere summer and rises again during the northern winter. Explain this pattern. [3]

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