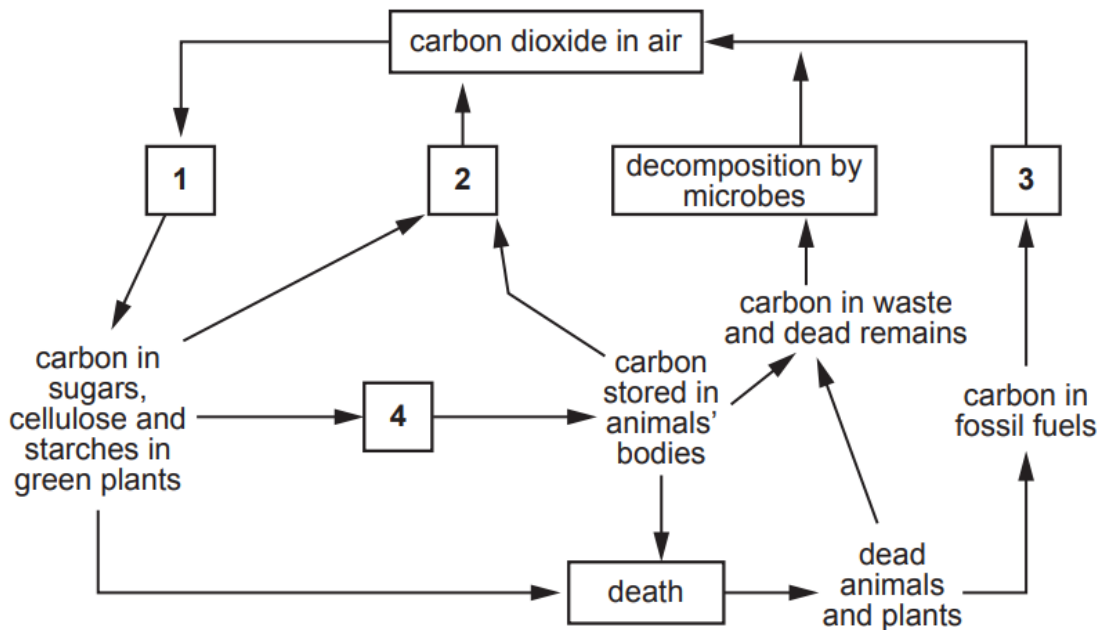


GCSE Biology A (Gateway)

J247/02 B4-B6 and B7 Foundation (Foundation Tier)

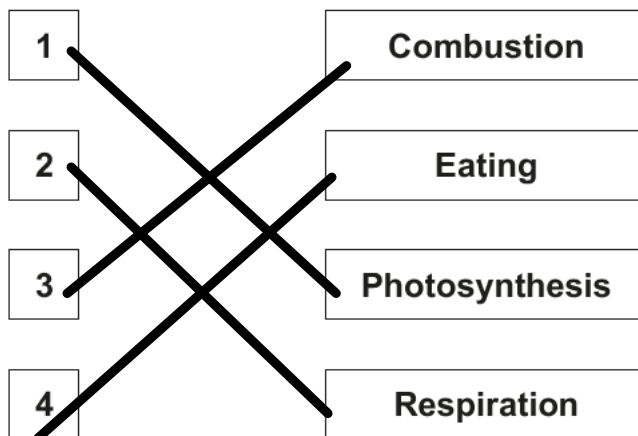
Question Set 24

1 (a) The diagram shows the carbon cycle.



Boxes 1–4 represent different processes in the carbon cycle.

Draw lines to link boxes 1–4 to the correct name for the process in the carbon cycle.



[2]

(b) Scientists investigated if crops can be grown on the planet Mars.

They used a soil that was similar to the soil found on Mars. The soil contained some minerals but no living organisms.

(i) The scientists managed to grow crops in the soil. However on Mars, the minerals in the soil would soon run out.

Explain why.

there are no microorganisms like bacteria, to decompose dead plants and recycle the minerals back into the soil, needed by crops for growth again [2]

- (ii) Living organisms could be added to the soil but there is no air on Mars. The plants would need to be grown in an enclosed structure.

At first, air would need to be added, but after a while the organisms in the soil and the plants would supply each other with the gases they need.

Explain how this would happen.

the organisms use the oxygen^[2] to respire aerobically, producing CO_2 . The plants use this CO_2 to photosynthesise, which releases oxygen and the cycling of gases continues.

Total Marks for Question Set 24: 6

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