



Booklet A · answers and explanations

- 1 **(3) Ovary** [2]
After fertilisation, the ovary develops into the fruit and the ovules inside it develop into seeds.
- 2 **(2) A sperm fuses with an egg.** [2]
Fertilisation occurs when a sperm fuses with an egg.
- 3 **(4) Water vapour in the surrounding air condensed on the cold glass.** [2]
Warm water vapour in the air touched the cold surface of the glass, lost heat and condensed into water droplets.
- 4 **(2) The water on plate A evaporates faster.** [2]
The higher the temperature, the faster the rate of evaporation.
- 5 **(1) Water vapour rises, cools and condenses into tiny water droplets.** [2]
Water evaporates, the warm water vapour rises, loses heat and condenses into tiny water droplets that form clouds.
- 6 **(3) It has less oxygen and more carbon dioxide.** [2]
The body takes in oxygen and gives out carbon dioxide, so exhaled air has less oxygen and more carbon dioxide (and more water vapour).
- 7 **(2) His muscles need more oxygen and digested food, which the blood brings.** [2]
Working muscles need more oxygen and digested food. Faster breathing takes in more oxygen, and a faster heartbeat delivers more blood to the muscles.
- 8 **(2) Water is carried up the stem to the flower.** [2]
The dyed water was carried up the stem by the water-carrying tubes to the petals.
- 9 **(1) Plastic is an electrical insulator, so it protects us from electric shocks.** [2]
The metal inside carries the current. The plastic is an insulator that stops current from passing to our bodies.
- 10 **(3) It stays lit.** [2]
Bulbs in parallel each have their own path to the battery. If one fuses, the other still forms a closed circuit and stays lit.

Booklet B · model answers and key points

11 The water-carrying tubes in a plant's stem were damaged. Its leaves wilted even though the soil was wet. Explain why. [2]

Model answer: Water taken in by the roots could not be carried up the stem to the leaves, so the leaves did not get enough water and wilted.

Award marks for:

- Water could not be carried up to the leaves [1]
- The leaves did not get enough water and wilted [1]

Water-carrying tubes carry water from the roots to the other parts of the plant.

12 Explain how oxygen from the air reaches the muscles in Ali's legs. [3]

Model answer: Air passes through the nose and windpipe into the lungs. In the lungs, oxygen passes into the blood. The heart pumps the blood through the blood vessels to the muscles in his legs.

Award marks for:

- In the lungs, oxygen passes into the blood [1]
- The heart pumps the blood [1]
- Blood vessels carry the blood to the muscles [1]

The respiratory and circulatory systems work together to bring oxygen to the cells.

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