

Multiple-choice test

Chapter 8: Transport in plants

Click on the correct answer to each question.

1 Which plant tissue transports water from roots upwards?

- A cortex
- B epidermis
- C mesophyll
- D xylem

2 How does water move out of plant leaves?

- A through stomata, as liquid water
- B through stomata, as water vapour
- C through xylem, as liquid water
- D through xylem, as water vapour

3 How is water absorbed into a plant?

- A by active transport into root hairs
- B by diffusion through stomata
- C by evaporation into xylem
- D by osmosis into root hairs

4 What is transpiration?

- A the absorption of water from the soil
- B the flow of water up xylem vessels
- C the loss of water vapour from plant leaves
- D the movement of water across a root

5 Which factor increases the rate of transpiration?

- A low humidity
- B low light intensity
- C low temperature
- D low wind speed

- S** 6 Which statements about xylem and phloem are correct?
- A** Xylem transports water from roots to leaves, and phloem transports sucrose from regions of production to regions of storage.
 - B** Xylem transports sucrose from leaves to roots, and phloem transports water from roots to leaves.
 - C** Xylem transports starch from leaves to roots, and phloem transports sucrose from regions of storage to regions of photosynthesis.
 - D** Xylem transports water from leaves to roots, and phloem transports starch from roots to leaves.
- 7 What causes water to move up xylem vessels in a plant stem?
- A** The root hair cells use energy to move water into the roots.
 - B** Transpiration reduces the pressure at the top of the xylem vessels.
 - C** The water moves up the xylem vessels by osmosis.
 - D** Water is pushed up the xylem vessels by active transport.
- 8 How does water travel up xylem vessels?
- A** by osmosis
 - B** by evaporation from cell surfaces
 - C** flowing in a continuous column
 - D** moving by active transport
- 9 Which carbohydrate is transported in phloem?
- A** amino acids
 - B** glucose
 - C** starch
 - D** sucrose
- 10 Potato plants start to grow from old stem tubers in spring. What is a source and what is a sink at this stage of the life cycle?
- A** Leaves are a source and roots are a sink.
 - B** Stem tubers are a source and new shoots are a sink.
 - C** Flowers are a sink and roots are a source.
 - D** Leaves are a source and stem tubers are a sink.