1. Xylem transports:

   ☐ sugars down the plant

   ☐ oxygen to the roots

   ☐ water and minerals up the plant

   ☐ sugars to the leaves

2. Water enters a root hair cell by:

   ☐ respiration

   ☐ active transport

   ☐ photosynthesis

   ☐ osmosis

3. Transpiration is the loss of:

   ☐ sugars from the roots

   ☐ oxygen from the stomata

   ☐ water vapour from the leaves

   ☐ minerals from the soil

4. What did the aphid mouthparts allow Kennedy and Mittler to collect?

   ☐ Xylem water

   ☐ Root hairs

   ☐ Pure phloem sap

   ☐ Chlorophyll

5. Phloem transports:

   ☐ oxygen

   ☐ only minerals

   ☐ only water

   ☐ sugars made in the leaves

6. Evaporation of water from the leaves helps pull water up the plant.

   ☐ True ☐ False

exercises.lol exercises.com.cn

   ☐ higher temperature

   ☐ more light

   ☐ higher humidity

   ☐ more wind

   Tick every correct option.

8. Phloem can carry sugars both up and down the plant.

   ☐ True ☐ False

9. Phloem transports substances only upwards, from roots to leaves.

   ☐ True ☐ False

10. After crossing the root, water enters the _____ to travel up the plant.

    _____

1. **water and minerals up the plant**

   Xylem carries water and minerals upward.

2. **osmosis**

   Water moves in by osmosis down the water gradient.

3. **water vapour from the leaves**

   Transpiration is water vapour loss, mainly through stomata.

4. **Pure phloem sap**

   It was rich in sucrose.

5. **sugars made in the leaves**

   Phloem carries sugars (translocation).

6. **True**

   This creates the transpiration stream.

7. **higher temperature; more light; more wind**

   Higher humidity slows transpiration; the others speed it up.

8. **True**

   From source to sink.

9. **False**

   False. Phloem moves sugars both up and down the plant, from sources to wherever they are needed. Xylem carries water only upwards.

10. **xylem**

    Xylem carries water up to the leaves.

exercises.lol exercises.com.cn