

IGCSE Biology

Name: \_\_\_\_\_ Score: \_\_\_\_\_

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. Translocation is the transport of:

- ☐ sugars in the phloem
- ☐ oxygen in the blood
- ☐ water in the xylem
- ☐ minerals in the roots

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

7. Which increase the rate of transpiration? (Select all that apply.)

- ☐ higher temperature
- ☐ more light
- ☐ higher humidity
- ☐ more wind

*Tick every correct option.*

8. Phloem can carry sugar both up and down the plant, depending on need.

- ☐ 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.

\_\_\_\_\_

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#### 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. **sugars in the phloem**

Translocation moves sugars in the phloem.

#### 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**

Direction depends on where the sources and sinks are.

#### 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.