8 Transpiration and translocation – Part 2

Name: _____ Class: _____ Date: _____

Vocabulary

Write each word three times.

English	**Write it 3 times** (English)		
Transpiration			
water vapour			
evaporates			
mesophyll			
diffuses			
stomata			
transpiration pull			
Translocation			
source			
sink			

Recall

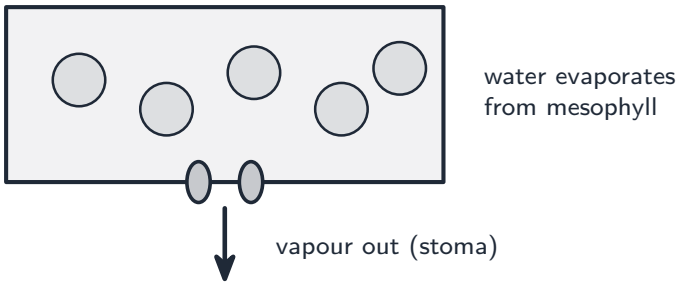
Most of the water a plant takes up is lost again from its leaves. This loss is called transpiration.

New ideas

Read these first, then do the Practice.

1 Transpiration

Transpiration is the loss of **water vapour** from the leaves:

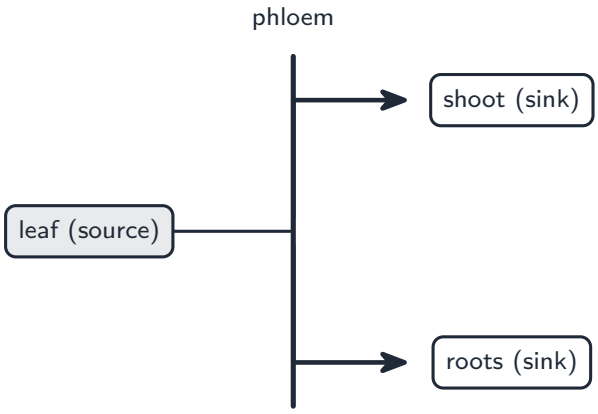


- water **evaporates** from the wet **mesophyll** cells into the air spaces;
- the vapour then **diffuses** out through the **stomata** .

It is faster when it is hotter, windier or drier. The loss pulls more water up the xylem – the **transpiration pull** .

2 Translocation

Translocation is the movement of sucrose in the phloem, from a **source** (where it is made, e.g. a leaf) to a **sink** (where it is used or stored, e.g. roots):



The direction can change with the season.

Watch out: transpiration (water vapour leaving the leaf) is faster when it is hotter, windier or drier. **Translocation** moves sucrose in the *phloem* from **source** to **sink**, and the direction can change with the season.

Practice

Try these in order.

8.6 Define *transpiration*. [2]

8.7 Out of which tiny holes does water vapour leave the leaf? [1]

8.8 Name two things that make transpiration faster. [2]

8.9 In translocation, what is a *source*? [1]

8.10 Give one example of a sink. [1]

8.11 Challenge. On a hot, windy day a plant wilts. Explain why, linking transpiration to the water in its cells. [2]