

12 What is a structural feature of xylem vessels?

- A** contain many mitochondria
- B** made up of cells joined end to end
- C** presence of cross walls
- D** thin walls

13 During the growing season, tomato plants produce flowers and fruits.

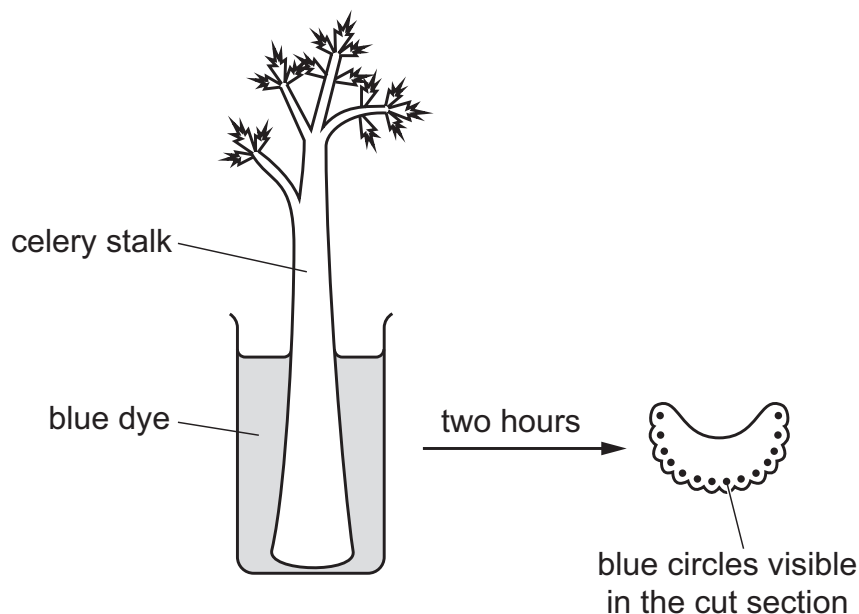
Which parts of a growing tomato plant are sources, and which parts are sinks?

	flowers	fruits	leaves
A	sink	sink	source
B	sink	source	sink
C	source	sink	source
D	source	source	sink

10 A student cut one stalk of celery from a celery plant.

They put the celery stalk into a beaker of blue dye.

The celery stalk was removed from the blue dye after two hours and was cut into sections.



What is shown by the blue circles in the cut sections of celery stalk?

- A** position of the cortex cells
- B** position of the palisade cells
- C** position of the phloem cells
- D** position of the xylem vessels

11 Which process moves water from the surfaces of the mesophyll cells into the air spaces during transpiration?

- A** active transport
- B** circulation
- C** evaporation
- D** osmosis

12 The mass of water lost from a plant was investigated.

The leaves of the plant were covered with a type of grease that acts as a waterproof barrier.

The environmental conditions remained the same throughout the experiment.

The table shows the results of the investigation.

treatment	mass lost in seven days/g
no grease applied	12.0
grease applied only to the upper surface of every leaf	8.7
grease applied to both surfaces of every leaf	0.0

What is the mean daily rate of water loss through the upper surface of the leaves?

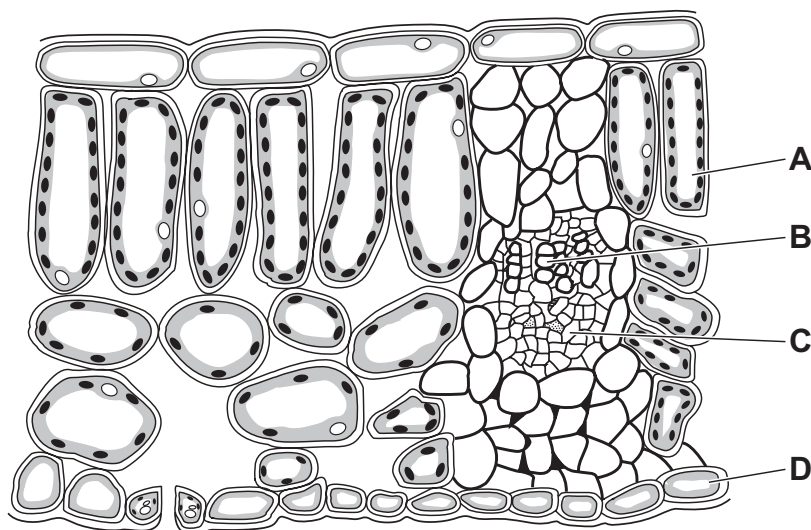
- A** 0.47 g/day **B** 1.24 g/day **C** 1.71 g/day **D** 3.30 g/day

13 What is translocation?

- A** the movement of amino acids and water from sink to source
B the movement of starch and water from source to sink
C the movement of sucrose and amino acids from source to sink
D the movement of sucrose and mineral ions from sink to source

9 The diagram shows part of a cross-section of a leaf.

Which part is the xylem?



13 Which environmental conditions will result in the highest rate of transpiration?

	high air humidity	very windy	low air temperature
A	no	no	yes
B	no	yes	no
C	yes	yes	yes
D	yes	no	no

14 Which statements describe sources and sinks?

- 1 Palisade mesophyll cells only act as sinks.
- 2 Roots can act as sinks.
- 3 Sink cells only receive glucose from the phloem.
- 4 Spongy mesophyll cells can act as sources.

- A** 1, 2, 3 and 4
- B** 1, 3 and 4 only
- C** 1 and 3 only
- D** 2 and 4 only

13 Which graph shows the effect of humidity in the air on the rate of transpiration in a plant?

