Chapter 8

Transport in plants

8.1 Transport in plants

01. 0610_m21_qp_22 Q: 17

Which statement about a function of xylem tissue is correct?

A It carries glucose from the roots to the leaves.

B It helps to support stems and leaves.

C It is the only transport tissue in the plant.

D It carries water away from the leaves.

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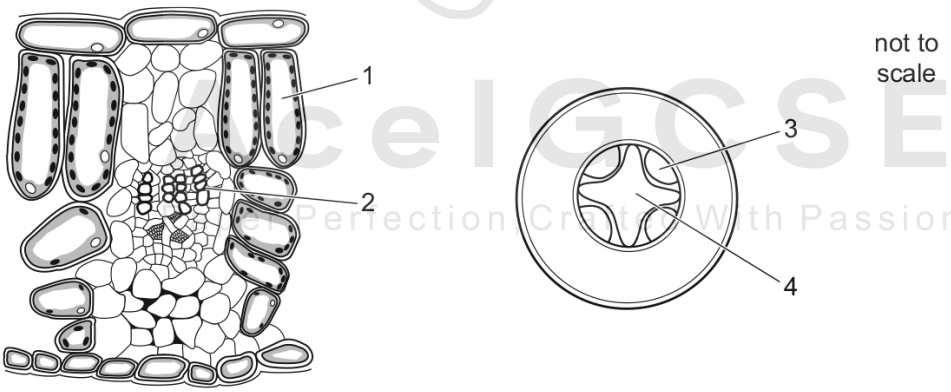
02. 0610_w21_qp_21 Q: 16

The diagrams show sections of a leaf and a root.



section of a leaf

section through a root

Which two labelled structures identify xylem?

A 1 and 4 **B** 2 and 3 **C** 1 and 3 **D** 2 and 4

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03. 0610_m20_qp_22 Q: 17

When stems with white flowers are cut and placed in a blue stain the petals turn blue.

Which tissue in the stem does the stain travel through to reach the petals?

A epidermis

B mesophyll

C phloem

D xylem

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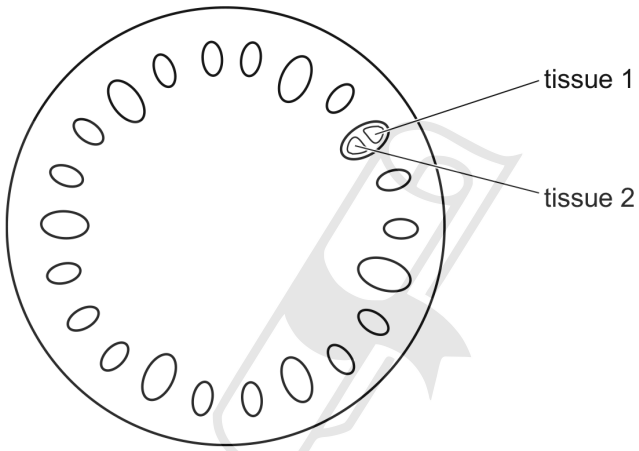
04. 0610_m19_qp_22 Q: 16

The diagram shows a cross-section through a plant stem.



What are the functions of the two labelled tissues?

	tissue 1	tissue 2
A	transport only	support only
B	transport only	transport and support
C	transport and support	transport only
D	support only	transport only

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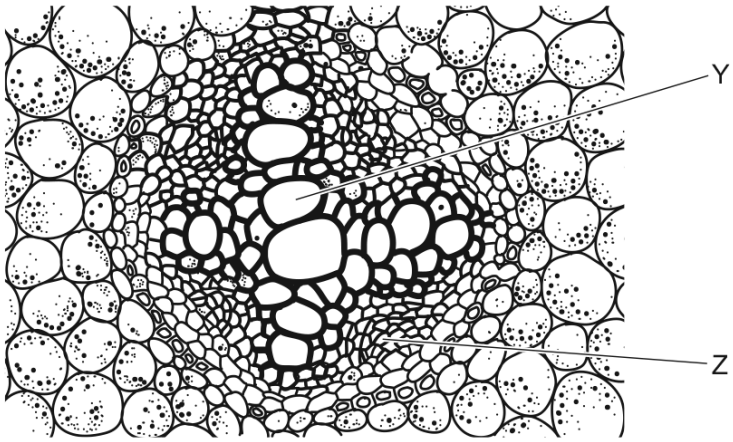
05. 0610_s19_qp_21 Q: 18

The diagram shows some of the transport tissues in a plant root.

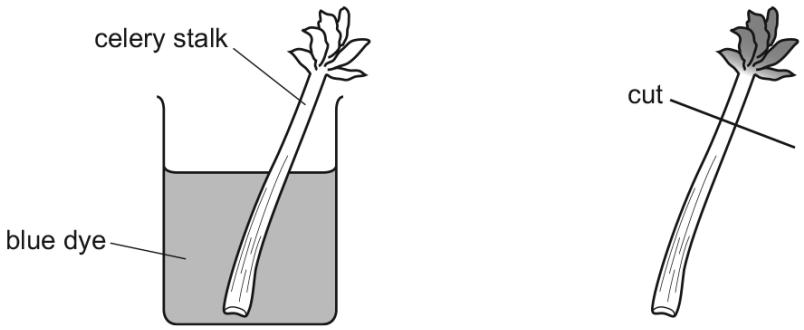


Which row about tissues Y and Z in the diagram is correct?

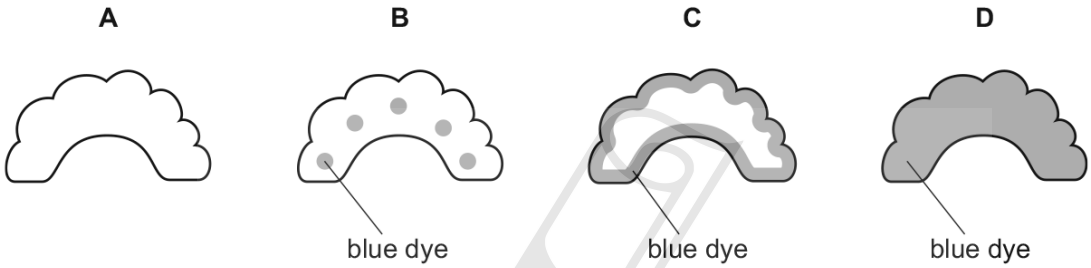
	tissue Y		tissue Z	
	name	transports	name	transports
A	phloem	mineral ions & water	xylem	sucrose
B	phloem	sucrose	xylem	mineral ions & water
C	xylem	mineral ions & water	phloem	sucrose
D	xylem	sucrose	phloem	mineral ions & water

06. 0610_s19_qp_22 Q: 16

A celery stalk was placed into a beaker of blue dye. When the dye reached the leaves, the stalk was taken out and a section was cut, as shown in the diagram.



Which diagram shows the appearance of the cut end of the stalk?



07. 0610_s19_qp_22 Q: 17

The table shows the rate of water flow through a tree over a 12 hour period.

time of day	rate of flow / cm per hour
7:00	100
9:00	120
11:00	140
13:00	250
15:00	300
17:00	260
19:00	180

What conclusion can be drawn from the table?

A Between 7:00 and 17:00 hours the rate of flow continuously increases.

B The greatest increase in rate of flow in a two-hour period is between 11:00 and 13:00 hours.

C Water does not flow up through a tree at night.

D Water flow is affected by humidity.

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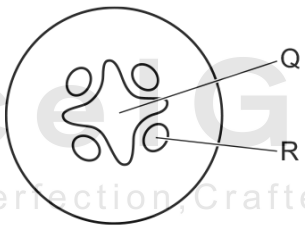
08. 0610_w19_qp_23 Q: 15

The diagram shows a cross-section through a plant root.



What is found at Q and R?

	Q	R
A	palisade mesophyll	spongy mesophyll
B	phloem	xylem
C	spongy mesophyll	palisade mesophyll
D	xylem	phloem

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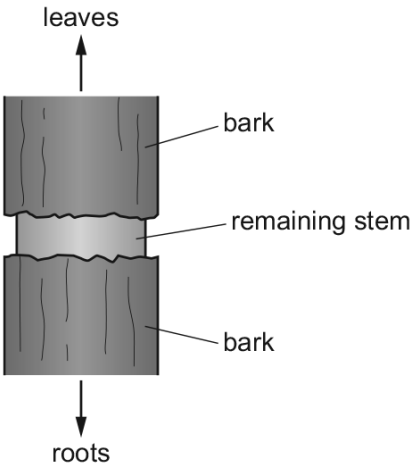
09. 0610_w19_qp_23 Q: 16

Rabbits can damage trees by eating the bark and phloem.



If the damage goes all the way around the stem, what will happen in the tree?

A Sugars cannot move from the leaves to the roots causing swelling above the ring.

B Sugars cannot move from the leaves to the roots causing swelling below the ring.

C Water cannot move from the leaves to the roots causing swelling above the ring.

D Water cannot move from the leaves to the roots causing swelling below the ring.

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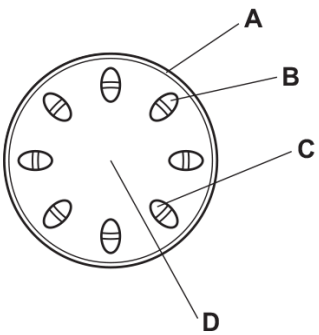
10. 0610_s18_qp_21 Q: 15

The diagram shows part of a section through a plant stem.

Which tissue transports water from the roots to the leaves?



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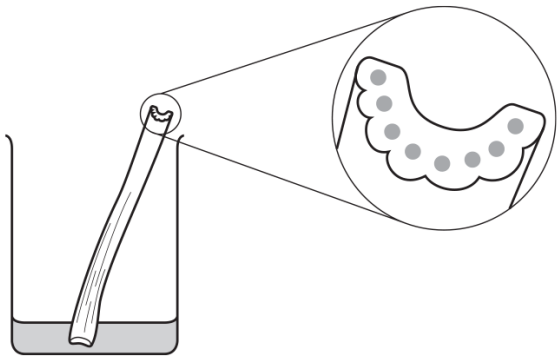
11. 0610_s18_qp_22 Q: 15

A celery stalk was placed in a beaker which contained a red stain. After 24 hours, the red stain appeared at the top of the celery stalk.



Which structures stained red?

A cortex cells

B mesophyll cells

C phloem

D xylem

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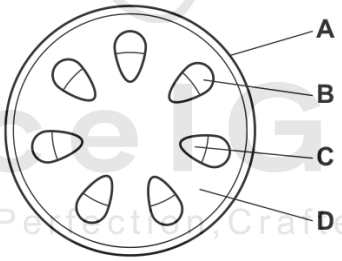
12. 0610_w18_qp_23 Q: 15

The diagram shows a section through the stem of a dicotyledonous plant.

Which part transports water and mineral ions?



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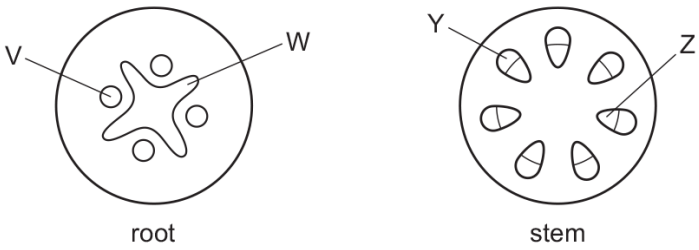
13. 0610_s17_qp_21 Q: 15

The diagrams show cross-sections through a root and a stem.



Which labels are correct?

	V	W	Y	Z
A	phloem	xylem	xylem	phloem
B	phloem	xylem	phloem	xylem
C	xylem	phloem	xylem	phloem
D	xylem	phloem	phloem	xylem

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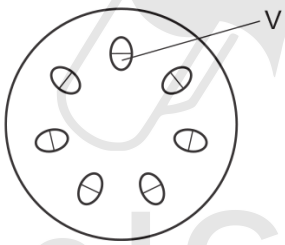
14. 0610_s17_qp_22 Q: 16

The diagram shows a cross-section of a plant stem.



What is the function of the tissue labelled V?

A transporting dissolved nutrients and mineral ions

B transporting dissolved nutrients only

C transporting water and mineral ions

D transporting water only

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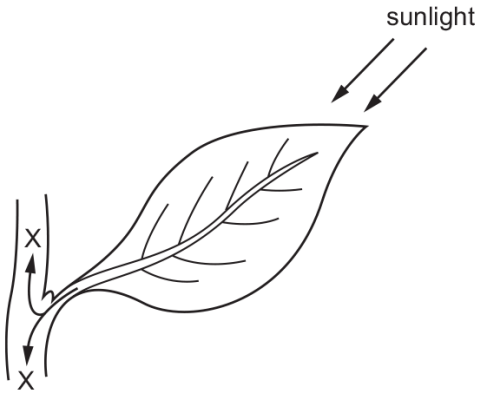
15. 0610_s17_qp_23 Q: 16

The diagram shows a leaf attached to the stem of a plant.



What do the arrows at X represent?

A movement of amino acids in phloem

B movement of carbon dioxide in phloem

C movement of mineral ions in xylem

D movement of sucrose in xylem

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16. 0610_m16_qp_22 Q: 15

The graph shows pH changes in the mouth after eating.

Why is it a good idea to brush teeth after eating?

A Acidic conditions help bacteria to grow.

B Acids dissolve tooth enamel.

C Alkaline conditions help bacteria to grow.

D Alkalis dissolve tooth enamel.

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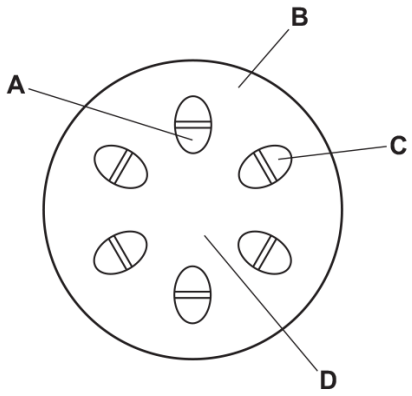
17. 0610_m16_qp_22 Q: 16

The lower end of a plant stem is placed in water coloured with red dye. After three hours, the stem is cut as shown in the diagram.

Which labelled region is stained red?



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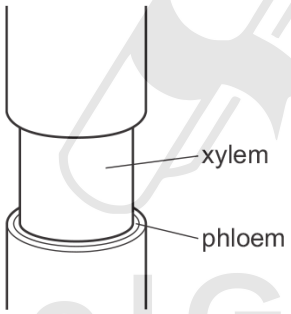
18. 0610_w16_qp_21 Q: 15

The diagram shows the stem of a plant. A strip of the outer tissue including the phloem has been removed.



How is transport in the plant affected?

A Amino acids and sugar cannot pass to the roots.

B Dissolved salts cannot pass to the leaves.

C Water cannot pass to the leaves.

D Water cannot pass to the roots.

SN	Paper	Q. No.	Answer
01	0610_m21_qp_22	17	B
02	0610_w21_qp_21	16	D
03	0610_m20_qp_22	17	D
04	0610_m19_qp_22	16	B
05	0610_s19_qp_21	18	C
06	0610_s19_qp_22	16	B
07	0610_s19_qp_22	17	B
08	0610_w19_qp_23	15	D
09	0610_w19_qp_23	16	A
10	0610_s18_qp_21	15	C
11	0610_s18_qp_22	15	D
12	0610_w18_qp_23	15	C
13	0610_s17_qp_21	15	B
14	0610_s17_qp_22	16	C
15	0610_s17_qp_23	16	A
16	0610_m16_qp_22	15	B
17	0610_m16_qp_22	16	A
18	0610_w16_qp_21	15	A