

6.2. LEAF STRUCTURE

02.0610_w16_qp_22 Q: 11

The roots of plants take up nitrates from the soil.

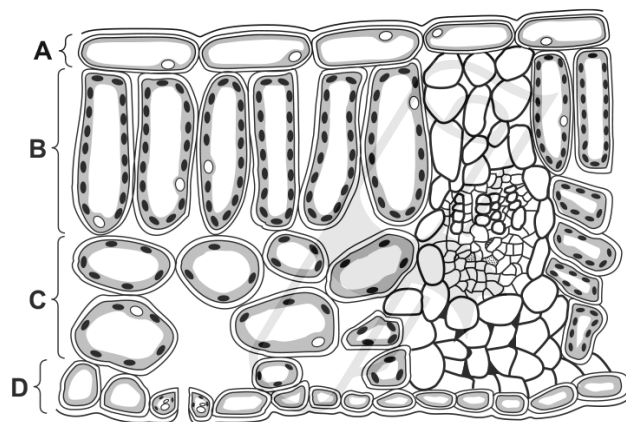
What are the nitrates used to make?

- A fat
- B glucose
- C protein
- D starch

6.2 Leaf structure

02.0610_m21_qp_22 Q: 13

Which layer in the leaf contains interconnecting air spaces?

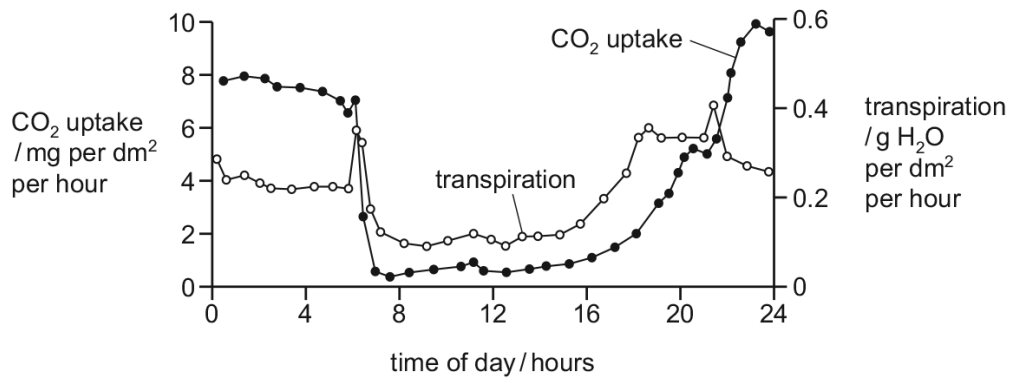


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03. 0610_s21_qp_21 Q: 14

The graph shows daily carbon dioxide uptake and transpiration by the plant *Agave americana*.

The plant is adapted to live in very dry conditions.

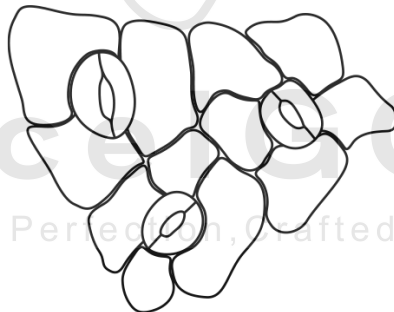


What can be concluded from this graph?

- A More stomata are closed during dark periods.
- B More stomata are closed during light periods.
- C There is no carbon dioxide uptake during dark periods.
- D There is no water uptake during light periods.

04. 0610_w21_qp_22 Q: 13

The diagram shows the surface view of part of the epidermis of a leaf.



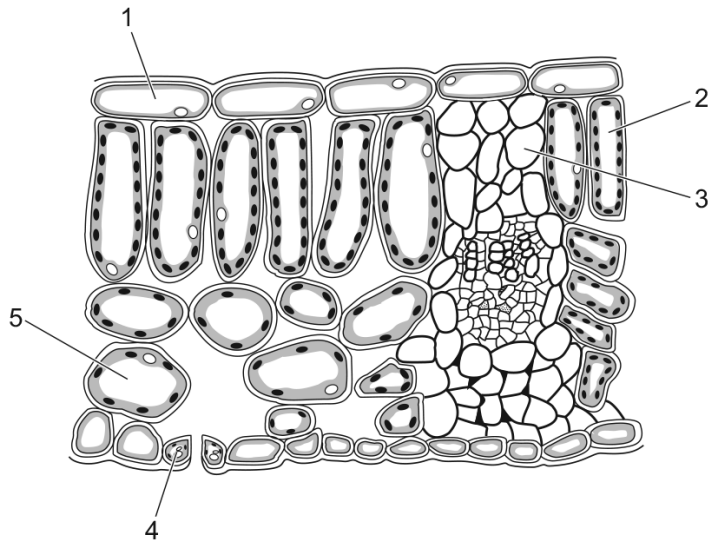
How many guard cells are present?

- A 0
- B 3
- C 6
- D 12

6.2. LEAF STRUCTURE

05. 0610_w21_qp_23 Q: 13

The diagram shows part of a leaf cross-section.

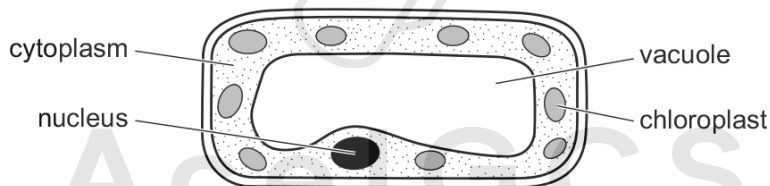


Which cells can carry out photosynthesis?

- A** 1, 2 and 3 **B** 2, 3 and 4 **C** 2, 4 and 5 **D** 1, 3 and 5
-

06. 0610_m20_qp_22 Q: 13

The diagram shows a type of plant cell.



In which tissue is this cell found?

- A** leaf epidermis
B palisade mesophyll
C root epidermis
D xylem
-

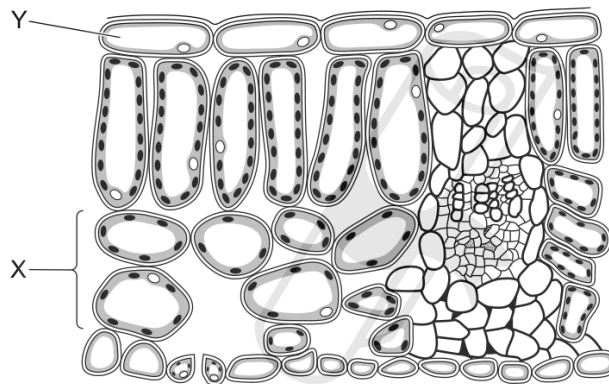
07. 0610_p20_qp_20 Q: 10

Which row shows the most likely number of chloroplasts in three types of cell in a leaf?

	epidermis	mesophyll	vascular bundle cell
A	0	6	17
B	0	17	0
C	17	6	0
D	17	0	6

08. 0610_w20_qp_21 Q: 12

The diagram shows a section through a leaf.



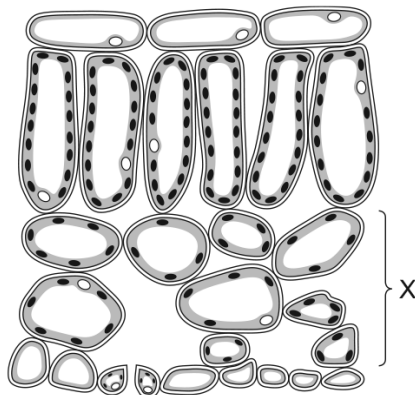
Which row correctly identifies tissues X and Y?

	X	Y
A	palisade mesophyll	cuticle
B	palisade mesophyll	upper epidermis
C	spongy mesophyll	cuticle
D	spongy mesophyll	upper epidermis

6.2. LEAF STRUCTURE

09.0610_w20_qp_23 Q: 12

The diagram shows part of a leaf.



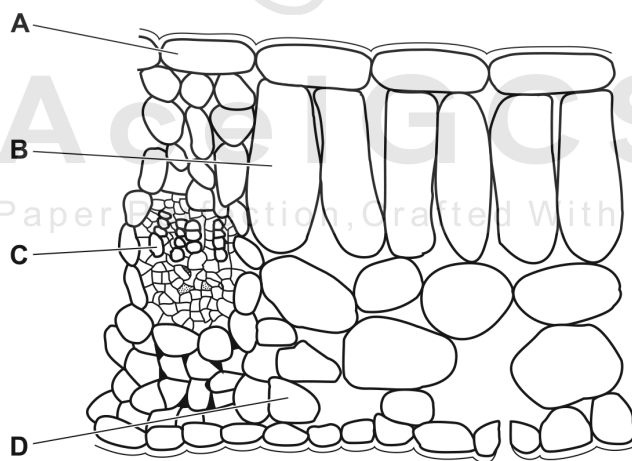
What is layer X?

- A lower epidermis
- B palisade mesophyll
- C spongy mesophyll
- D vascular bundle

10.0610_m19_qp_22 Q: 17

A leafy shoot is placed in a solution of a red dye.

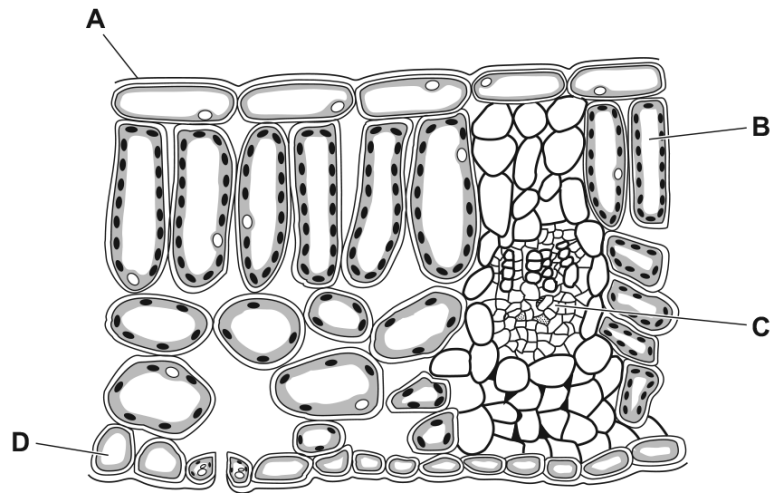
After 30 minutes, which part of a leaf from this shoot will contain the red dye?



11. 0610_s19_qp_21 Q: 12

The diagram shows a cross-section of a leaf as seen under a microscope.

Which structure is a palisade mesophyll cell?

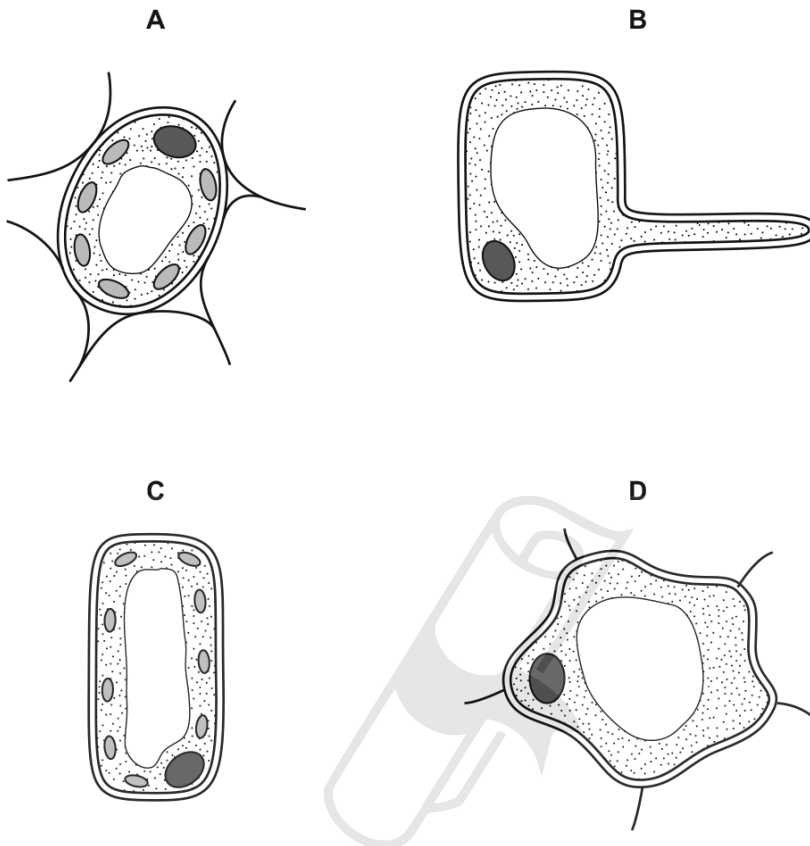


6.2. LEAF STRUCTURE

12. 0610_s19_qp_23 Q: 12

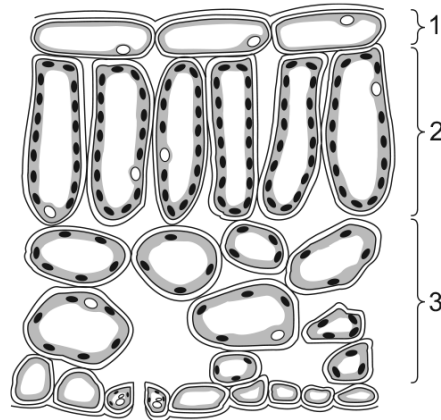
The diagrams show the structure of four different cells from a plant.

Which cell is from the upper epidermis of a leaf?



13. 0610_w19_qp_21 Q: 11

The diagram shows a leaf as seen in cross-section under the microscope.



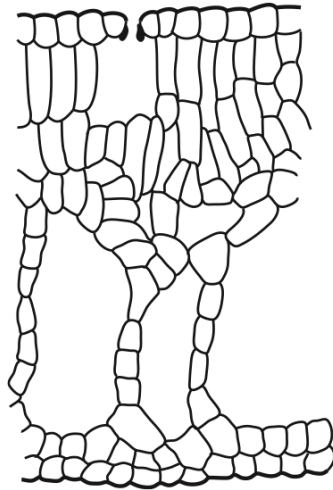
What are tissues 1, 2 and 3?

	1	2	3
A	epidermis	palisade mesophyll	spongy mesophyll
B	epidermis	spongy mesophyll	palisade mesophyll
C	palisade mesophyll	epidermis	spongy mesophyll
D	spongy mesophyll	palisade mesophyll	epidermis

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14. 0610_w19_qp_23 Q: 33

The diagram shows part of a section through the leaf of a water lily.



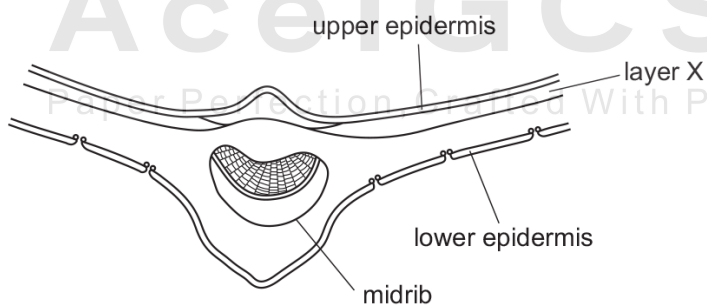
Their leaves are adapted to help them to live on the surface of the water.

How is the leaf of this plant adapted to being a hydrophyte?

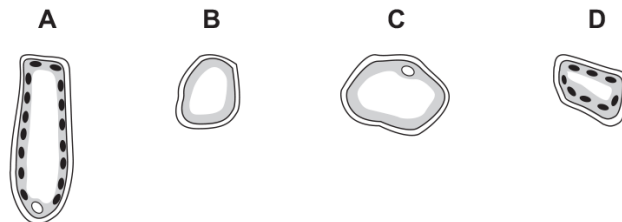
- A It does not have a cuticle.
- B It has a palisade layer.
- C It has an epidermis.
- D It has stomata on upper surface.

15. 0610_m18_qp_22 Q: 10

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

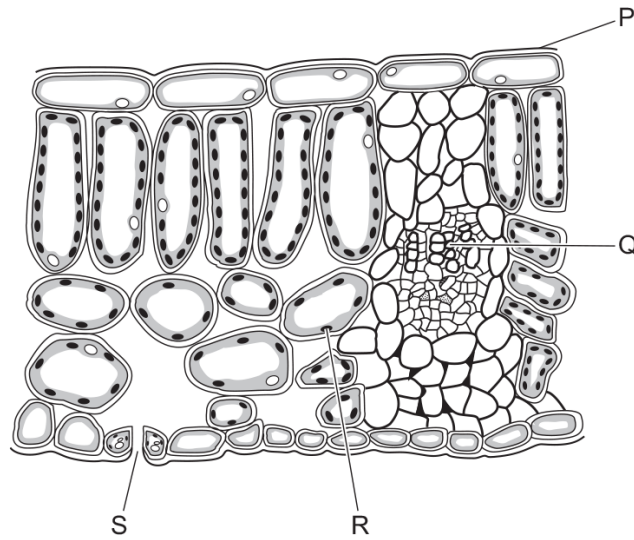


Which type of cell is found in layer X?



16. 0610_s18_qp_23 Q: 11

The diagram shows a section through a leaf.



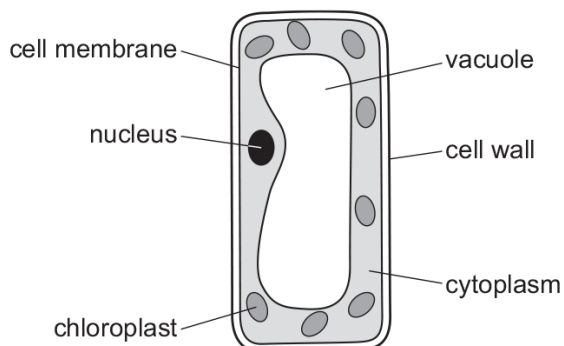
What are structures P, Q, R and S?

	P	Q	R	S
A	chloroplast	phloem	palisade tissue	xylem
B	cuticle	xylem	chloroplast	stoma
C	phloem	palisade tissue	cuticle	stoma
D	xylem	chloroplast	phloem	cuticle

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17. 0610_w18_qp_21 Q: 12

The diagram shows a plant cell.

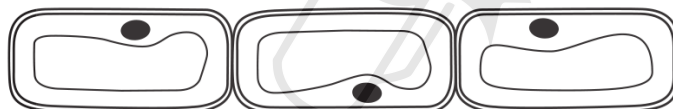


Which type of cell is shown?

- A cuticle cell
- B epidermal cell
- C palisade mesophyll cell
- D spongy mesophyll cell

18. 0610_w18_qp_22 Q: 12

The diagram shows the structure of cells from the leaf of a plant.



What type of cells are they?

- A epidermal cells
- B guard cells
- C palisade cells
- D spongy cells

19. 0610_w18_qp_23 Q: 12

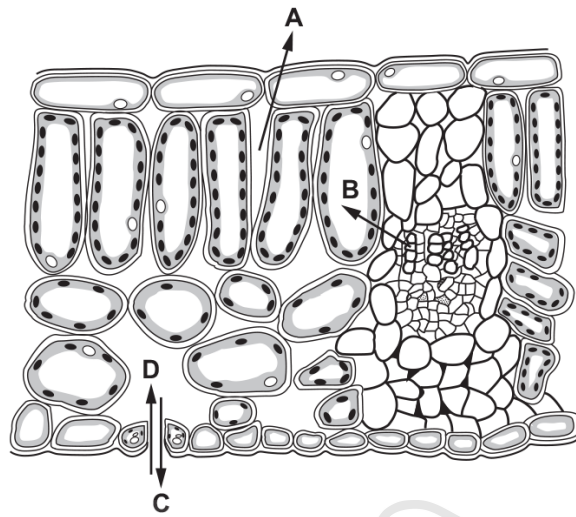
Which region in the leaf of a green plant contains phloem?

- A palisade mesophyll
- B spongy mesophyll
- C upper epidermis
- D vascular bundle

20. 0610_m17_qp_22 Q: 6

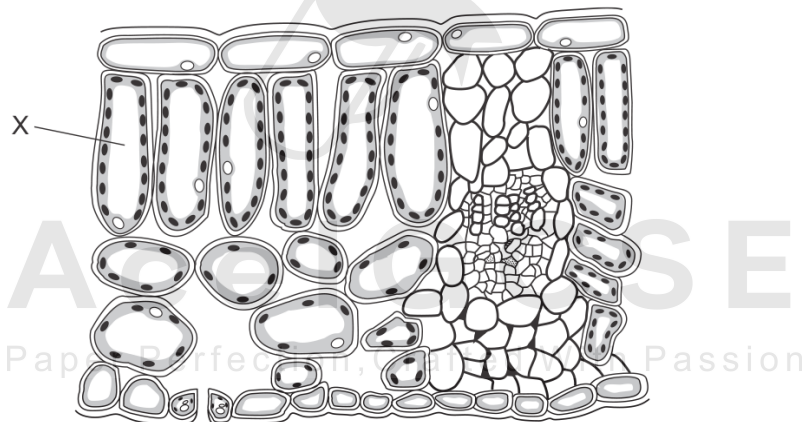
The diagram shows a section through a leaf.

Which arrow shows the direction of diffusion of carbon dioxide on a sunny day?



21. 0610_s17_qp_22 Q: 9

The diagram shows a cross-section through a leaf.



What is the cell labelled X?

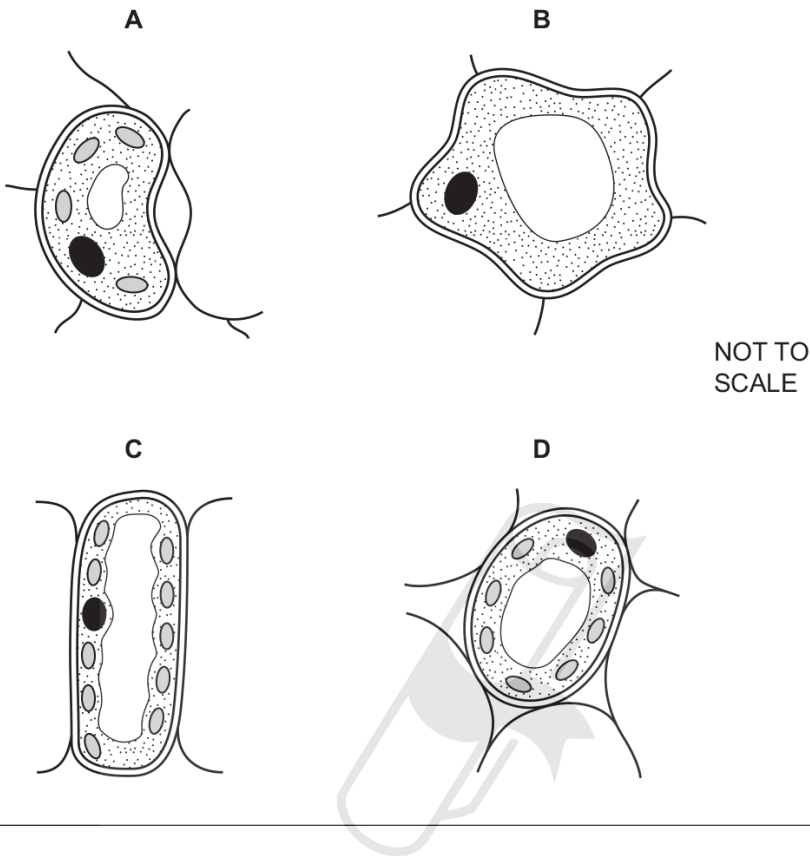
- A epidermis
- B guard cell
- C palisade mesophyll
- D spongy mesophyll

6.2. LEAF STRUCTURE

22. 0610_s17_qp_23 Q: 9

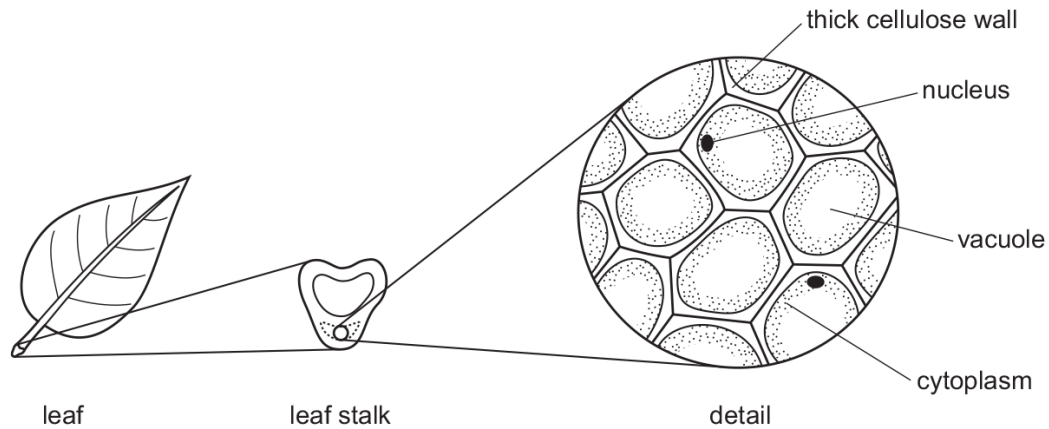
The diagrams show the structure of four different cells from the leaf of a dicotyledonous plant.

Which cell is a guard cell?



23. 0610_w17_qp_23 Q: 3

The diagrams show structures associated with a leaf.



What is the level of organisation of the part shown in detail?

- A cell
- B organ
- C organ system
- D tissue

24. 0610_w17_qp_23 Q: 15

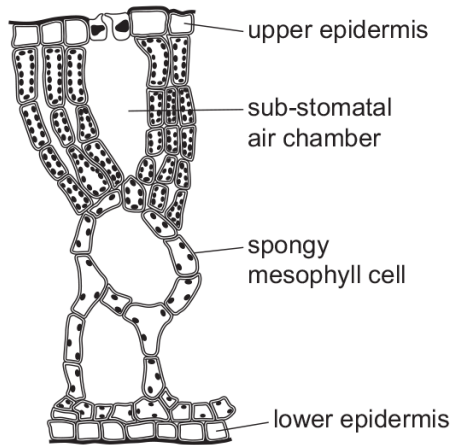
What is **not** a use of water by plants?

- A acting as a solvent
- B cooling the plant
- C dissolving cellulose cell walls
- D raw material in photosynthesis

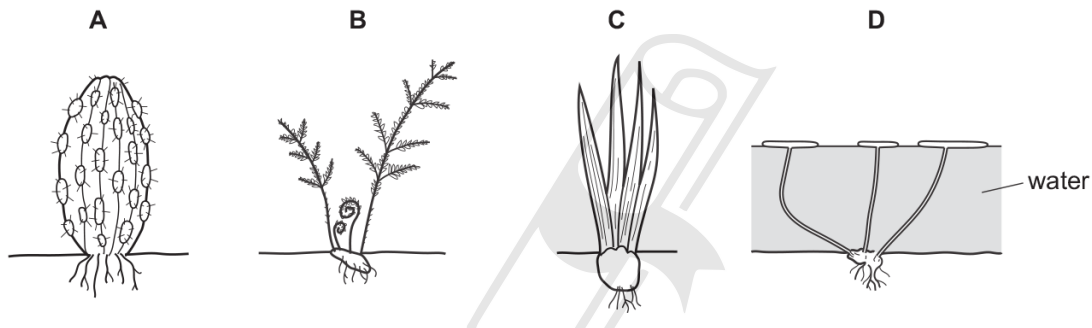
6.2. LEAF STRUCTURE

25. 0610_w17_qp_23 Q: 33

The diagram shows a vertical section through a leaf.



Which diagram shows the plant that the leaf was taken from?

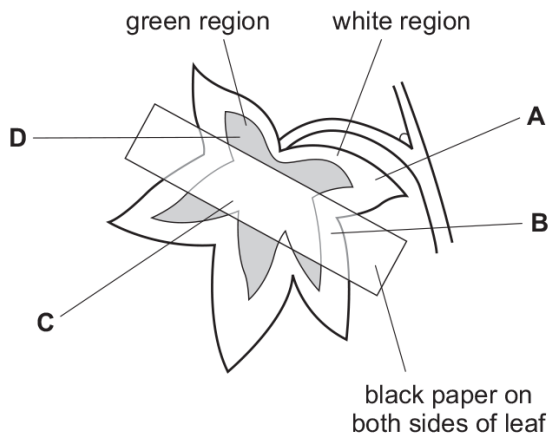


26. 0610_m16_qp_22 Q: 12

A plant with variegated leaves has the starch removed from its leaves by placing it in a dark cupboard for 48 hours.

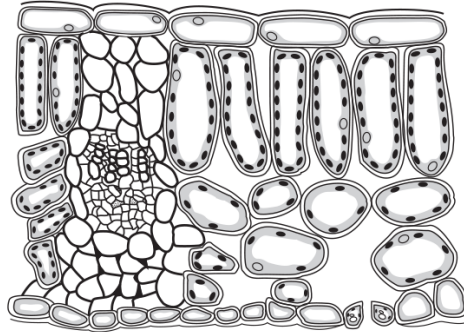
Black paper is then fixed on one leaf as shown and the plant is exposed to light.

After 24 hours, which part of the leaf contains starch?



27. 0610_s16_qp_21 Q: 5

The actual thickness of the leaf shown in the diagram is 2000 μm , but its thickness in the diagram is 50 mm.



What is the magnification of the diagram?

- A** $\times 0.025$ **B** $\times 25$ **C** $\times 100$ **D** $\times 100\,000$

28. 0610_s16_qp_22 Q: 6

For the stomata of a leaf to open, the guard cells accumulate more potassium ions than the surrounding cells.

Which row describes what happens?

	movement of potassium ions	movement of water in relation to guard cells	final state of the guard cells
A	active transport	in	turgid
B	active transport	out	flaccid
C	diffusion	in	plasmolysed
D	diffusion	out	no change

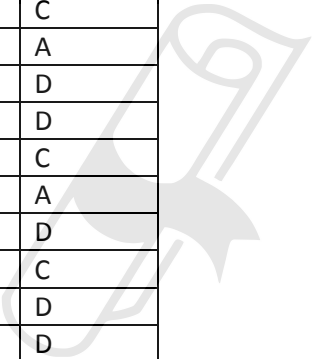
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29. 0610_s16_qp_23 Q: 11

Which feature is a leaf adaptation for living in the desert?

- A** large size
B many stomata
C rolled along its length
D thin waxy cuticle

SN	Paper	Q. No.	Answer
01	0610_w16_qp_22	11	C
02	0610_m21_qp_22	13	C
03	0610_s21_qp_21	14	B
04	0610_w21_qp_22	13	C
05	0610_w21_qp_23	13	C
06	0610_m20_qp_22	13	B
07	0610_p20_qp_20	10	B
08	0610_w20_qp_21	12	D
09	0610_w20_qp_23	12	C
10	0610_m19_qp_22	17	C
11	0610_s19_qp_21	12	B
12	0610_s19_qp_23	12	D
13	0610_w19_qp_21	11	A
14	0610_w19_qp_23	33	D
15	0610_m18_qp_22	10	A
16	0610_s18_qp_23	11	B
17	0610_w18_qp_21	12	C
18	0610_w18_qp_22	12	A
19	0610_w18_qp_23	12	D
20	0610_m17_qp_22	6	D
21	0610_s17_qp_22	9	C
22	0610_s17_qp_23	9	A
23	0610_w17_qp_23	3	D
24	0610_w17_qp_23	15	C
25	0610_w17_qp_23	33	D
26	0610_m16_qp_22	12	D
27	0610_s16_qp_21	5	B
28	0610_s16_qp_22	6	A
29	0610_s16_qp_23	11	C



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