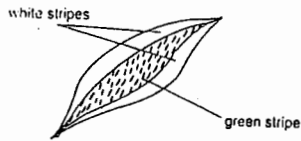
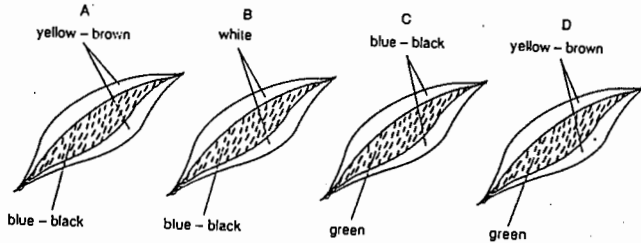


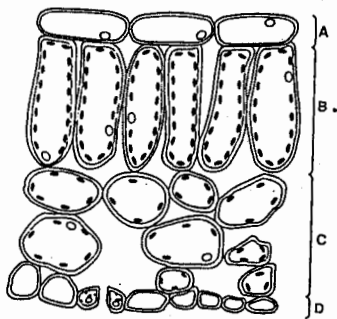
1. A plant with striped leaves, similar to the one below, was kept in bright light for six hours.



A leaf was removed and tested for starch using iodine solution.
Which diagram shows the result of the test?

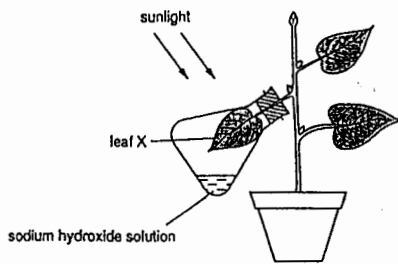


2. The diagram shows the internal structure of a leaf.



In which region will most photosynthesis take place?

3. The diagram shows an experiment which was set up to investigate one of the requirements for photosynthesis.

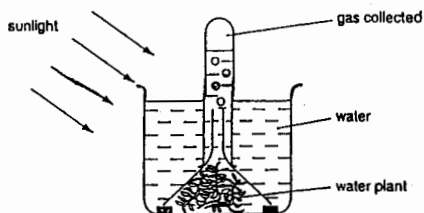


Several hours later, no starch was found in leaf X.

Which requirement for photosynthesis was being investigated?

- A carbon dioxide
- B chlorophyll
- C sunlight
- D water

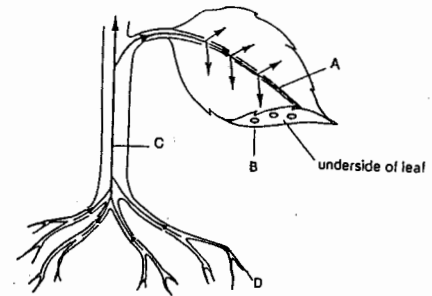
4. The diagram shows gas being collected from a water plant in bright sunlight.



Which gas is being collected?

- A carbon dioxide
- B nitrogen
- C oxygen
- D water vapour

5. The diagram shows the pathway of water through a plant.
Where does transpiration take place?

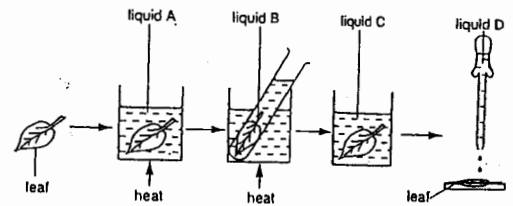


6. Which substance in the leaf of a green plant contains magnesium?

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

7. The diagram shows the stages in testing a green leaf for starch.

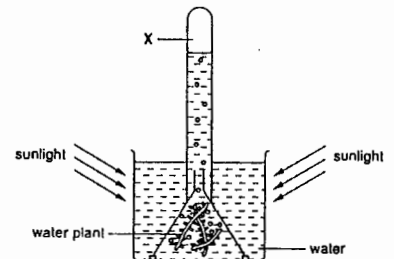
Which liquid could be alcohol (methylated spirits)?



8. When a plant shoot is placed in a solution of dye, the dye moves up the stem.
Under which conditions will the dye move fastest?

	temperature	humidity
A	high	high
B	high	low
C	low	high
D	low	low

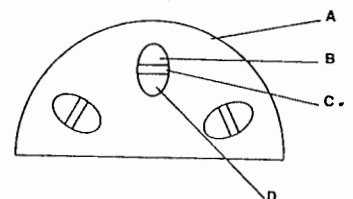
9. The diagram shows apparatus which had been placed in sunlight for several hours.



Compared with atmospheric air, the gas collected at X has

- A the same composition.
- B more carbon dioxide.
- C more oxygen.
- D more nitrogen.

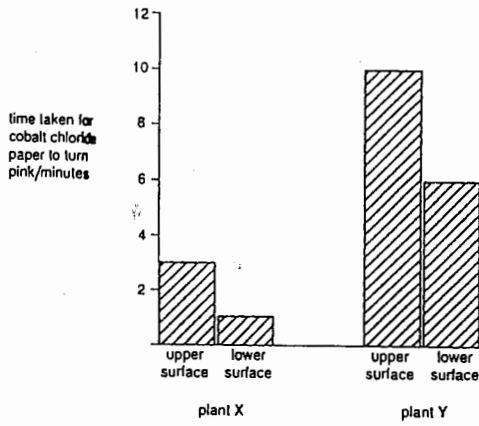
10. The diagram shows part of a cross-section of a plant stem.



Which region carries water up the plant?

11. Cobalt chloride paper is blue when dry but turns pink when wet. Some blue cobalt chloride paper was fastened to the upper and lower surfaces of a leaf on plant X and a leaf on plant Y.

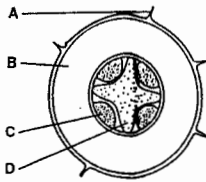
The diagram shows the results of the experiment.



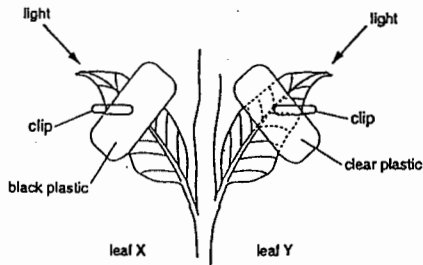
Through which leaf surface was water lost most quickly?

- A plant X, lower surface
 B plant X, upper surface
 C plant Y, lower surface
 D plant Y, upper surface
12. The diagram shows a section through the root of a plant.

Which part has absorption as its main function?



13. The following experiment was set up, using leaves on the same plant.

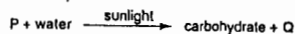


Both leaves were left to photosynthesise for six hours.

Which set of results should be obtained after testing both leaves for starch?

- | leaf X | leaf Y |
|---------------------|-------------------|
| A all blue-black | all blue-black |
| B all blue-black | partly blue-black |
| C partly blue-black | all blue-black |
| D partly blue-black | partly blue-black |

14. An equation for photosynthesis is shown.



What do P and Q represent?

- A carbon dioxide chlorophyll
 B carbon dioxide oxygen
 C oxygen carbon dioxide
 D oxygen chlorophyll

15. The following substances are found in the leaf of a plant.

Which is obtained from the soil?

- A carbon dioxide
 B chlorophyll
 C glucose
 D mineral salts

16. The following substances are found in the leaf of a plant.

Which one is obtained mainly from the soil?

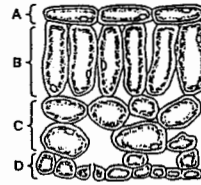
- A carbon dioxide
 B chlorophyll
 C glucose
 D mineral salts

17. By which process does a plant lose water to the atmosphere?

- A photosynthesis
 B respiration
 C translocation
 D transpiration

18. The diagram shows a section through a leaf.

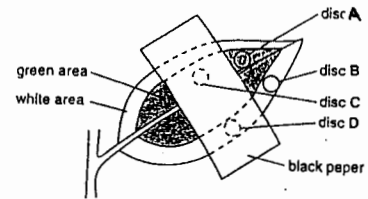
During photosynthesis, where would the greatest conversion of light energy to chemical energy take place?



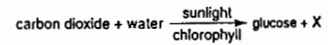
19. The diagram shows a leaf on a plant used in a photosynthesis experiment. At the start of the experiment there was no starch in the leaf.

The plant was placed in bright light for 12 hours. Then four discs were cut from the leaf in the positions shown and were tested for starch.

Which disc contained starch?



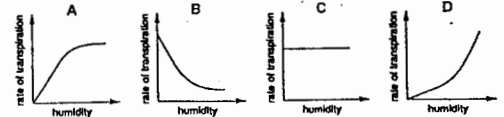
20. The word equation represents the process of photosynthesis.



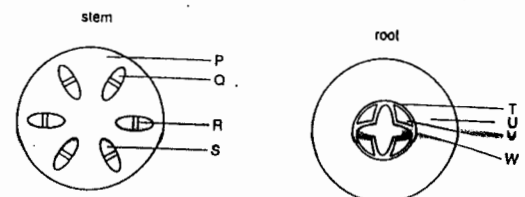
What is X?

- A carbon dioxide
 B nitrogen
 C oxygen
 D sulphur dioxide

21. Which graph shows most clearly what will happen to the rate of transpiration as humidity increases?



22. The diagrams show cross-sections through a stem and a root of a flowering plant.



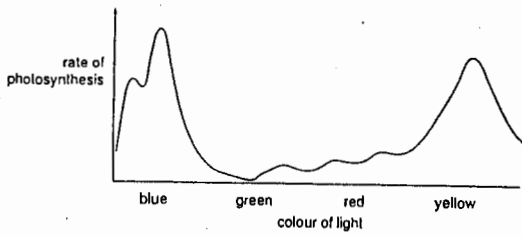
Which pair of lines labels similar tissues?

- A P and T B Q and U C R and V D S and W

23. Where are carbohydrates made in a green leaf?

- A cell vacuoles
 B chloroplasts
 C phloem
 D xylem

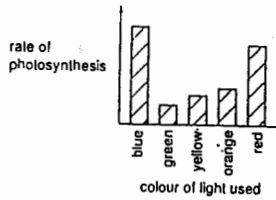
24. The graph shows the rate of photosynthesis of a green plant when exposed to light of different colours.



In which colour of light would plants synthesise most slowly?

- A blue
- B green
- C red
- D yellow

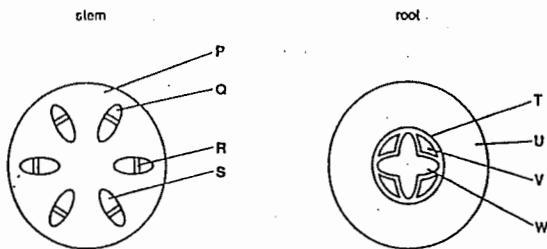
25. The bar chart shows the rate of photosynthesis of a green plant when placed in light of different colours.



In which colours of light was the rate of photosynthesis fastest?

- A blue and yellow
- B green and red
- C red and blue
- D yellow and green

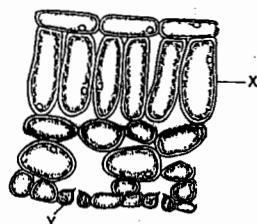
26. The diagrams show cross-sections through a stem and a root of a flowering plant.



Which pair of lines label similar tissues?

- A P and T
- B Q and U
- C R and V
- D S and W

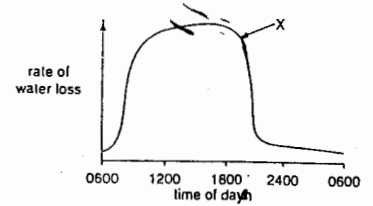
27. The diagram shows part of a leaf in cross-section.



Structures X and Y are both part of the same

- A cell.
- B organ.
- C tissue.
- D vessel.

28. The graph shows the rate of water loss from a plant over 24 hours.

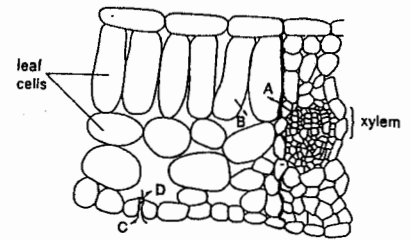


At point X, the stomata are

- A closing.
- B fully closed.
- C fully open.
- D opening.

29. The diagram shows part of a section through a leaf.

Which arrow represents the diffusion of carbon dioxide during photosynthesis?



30. What are the raw materials and the products of photosynthesis?

	raw materials	products
A	carbon dioxide and simple sugars	water and oxygen
B	carbon dioxide and water	oxygen and simple sugars
C	water and oxygen	carbon dioxide and simple sugars
D	water and simple sugars	oxygen and carbon dioxide

31. The table shows the average number of chloroplasts in four different types of cell taken from a leaf.

Which of the following is an epidermal cell?

cell	average number of chloroplasts per cell
A	820
B	370
C	47
D	0

32. What is made during photosynthesis?

- A carbon
- B chlorophyll
- C sugar
- D water

33. A plant with variegated leaves was completely destarched by placing it in a dark cupboard for 48 hours.

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

After 24 hours, which region of the leaf contained starch?

