Plant nutrition

IGCSE Biology Topical Questions Paper 1

May/June 2003

19 The roots of green plants take up nitrates from the soil.

What are the nitrates used to make?

A fat

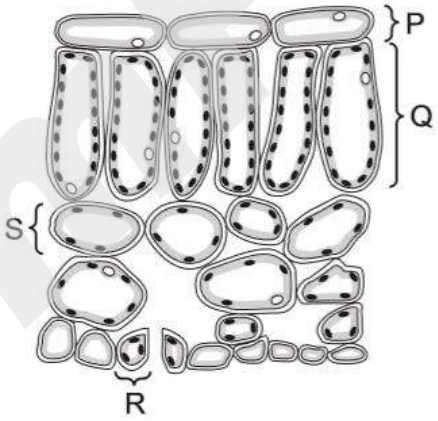
B glucose

C protein

D starch

May/June 2004

Use the diagram of a section through a leaf to answer questions **6** and **7**.



6 Which can perform the most photosynthesis?

A P **B** Q **C** R **D** S

14 Why is sunlight necessary for photosynthesis?

A It is a catalyst.

B It is a source of energy.

C It provides nutrients.

D It provides oxygen.

20 Which process in green plants produces carbon dioxide?

A photosynthesis

B respiration

C translocation

D transpiration

37 In which process is oxygen a waste product?

A active transport

B aerobic respiration

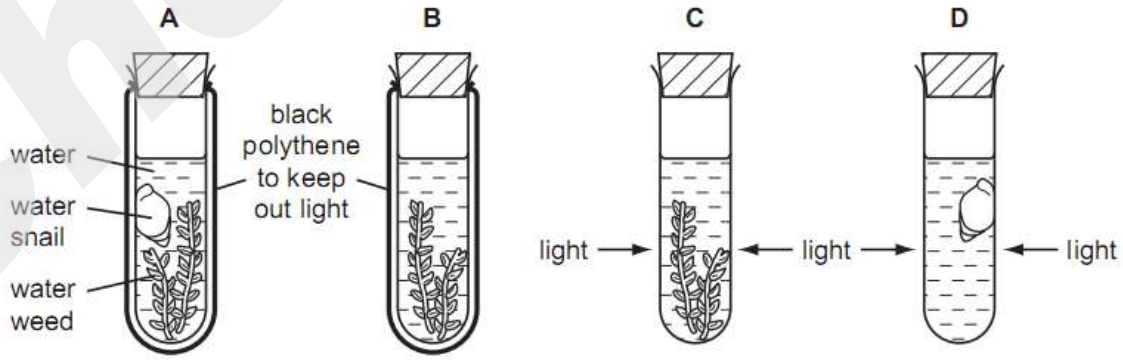
C anaerobic respiration

D photosynthesis

Oct/Nov 2004

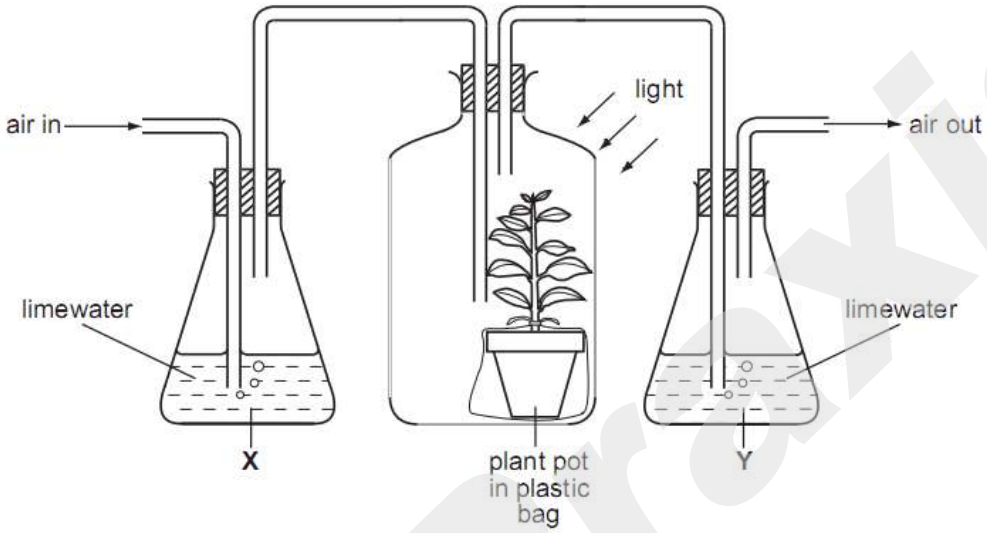
14 Four test-tubes are set up as shown.

Which test-tube contains the most carbon dioxide after one hour?



May/June 2006

13 The apparatus shown in the diagram is used to investigate the effect of a green plant on carbon dioxide in the air.



Limewater goes cloudy if carbon dioxide is bubbled through it.

What happens to the limewater in **X** and in Y?

	X	Y
A	goes cloudy	goes cloudy
B	goes cloudy	stays clear
C	stays clear	goes cloudy
D	stays clear	stays clear

Oct/Nov 2007

3 Cacti have fewer stomata than other plants.

How does this help them to survive in desert conditions?

A It increases loss of water.

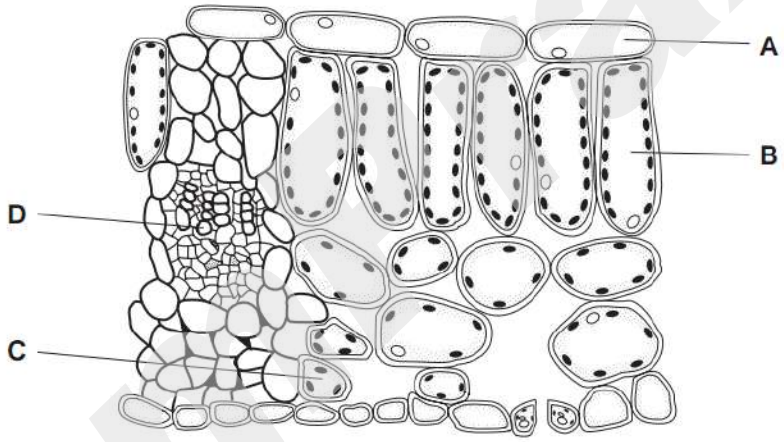
B It increases uptake of carbon dioxide.

C It reduces loss of water.

D It reduces uptake of carbon dioxide.

15 The diagram shows a section through a leaf, seen under the microscope.

In which part is the carbon dioxide concentration **lowest** on a warm sunny day?

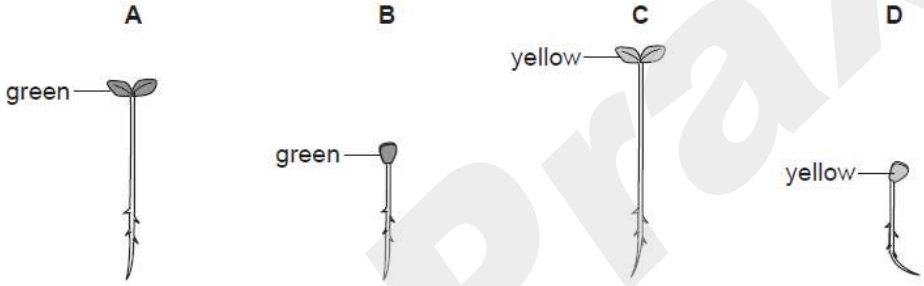


29 Four samples of seeds were allowed to germinate in different conditions of temperature and light, as shown in the table.

sample	temperature (°C)	light
1	20	absent
2	20	present
3	5	absent
4	5	present

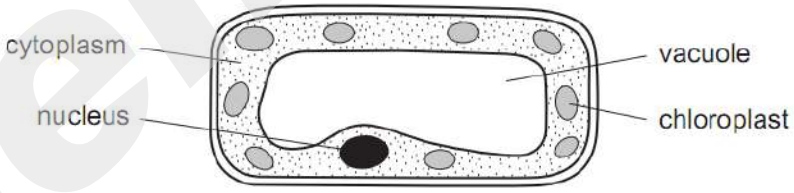
A typical seedling from each sample was removed after seven days.

Which seedling was from sample 4?



May/June 2008

5 The diagram shows a type of plant cell.



In which tissue is this cell found?

A leaf epidermis

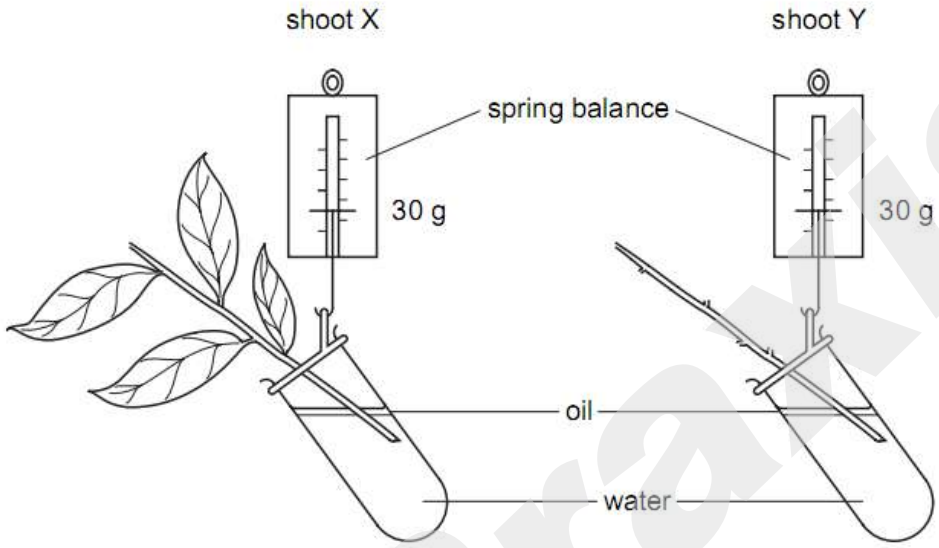
B palisade mesophyll

C root epidermis

D xylem

Oct/Nov 2008

18 The diagram shows two shoots at the start of an experiment on transpiration.



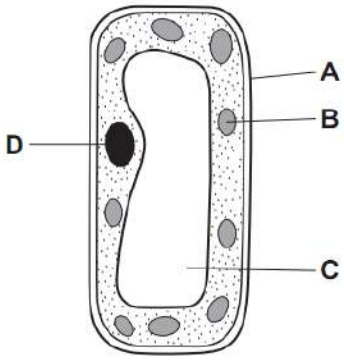
What are the readings on the spring balances after three days?

	shoot X	shoot Y
A	30 g	30 g
B	30 g	25 g
C	25 g	30 g
D	25 g	25 g

May/June 2009

4 The diagram shows a palisade cell from a leaf.

Which labelled structure produces oxygen?



13 Which cell type contains the **most** chloroplasts?

A palisade mesophyll

B phloem

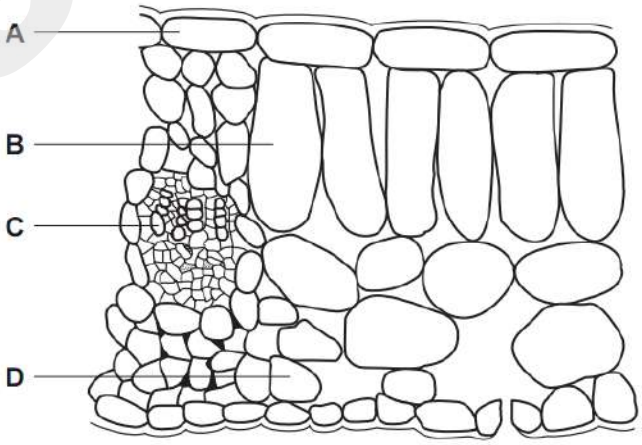
C spongy mesophyll

D xylem

Oct/Nov 2009

12 The diagram shows a section through a leaf.

Which cell type absorbs the most carbon dioxide during the day?



13 Which element is found in a molecule of chlorophyll?

A calcium

B iron

C lead

D magnesium

14 What is formed first in a leaf as a result of photosynthesis?

A chlorophyll

B glucose

C starch

D water