



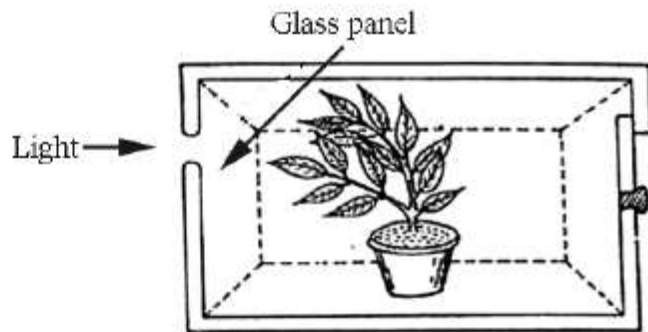
**Science Revised Syllabus
Junior Certificate
Higher Level**

**Past Exam Questions on
B Plant Structure and Photosynthesis**

Q1 Part (c) 2013

(c)(i) What advantage does the plant get from bending towards the light?

What? _____



(ii) Name this movement (growth response).

Name _____

(d) Nerves can carry messages in one direction only.

Clearly distinguish between sensory and motor nerves.

Distinction _____

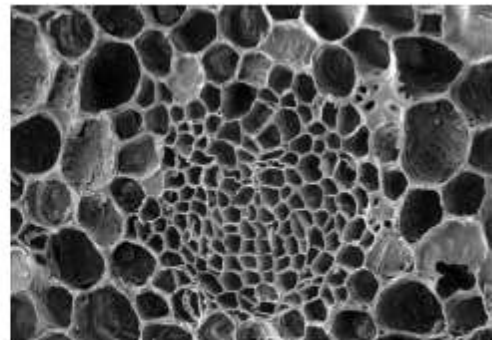
Q1 Part (g) 2013

- (g) Describe, using a word equation, how green plants make food from simple non-food substances.

Equation _____

Q1 Part (e) 2012

- (e) The photograph, made by a scanning electron microscope, shows two types of plant vascular tissue, xylem and phloem. Give the function of each tissue.

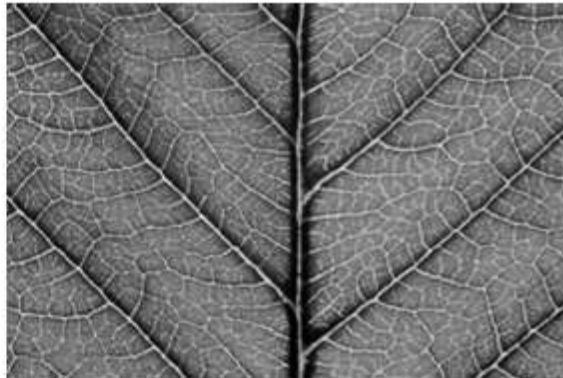


Xylem _____

Phloem _____

Q2 Part (b) 2012

(b) The photograph shows part of a leaf of a green plant.



(i) Name a gas that moves into and a gas that moves out of a green leaf during active photosynthesis. (6)

Gas in _____

Gas out _____

(ii) Outline an experiment to show that photosynthesis produces starch. Use the box provided for an optional labelled diagram. (18)

Q1 Part (b) 2011

(b) Complete the word equation for photosynthesis.

carbon dioxide + _____ → _____ + oxygen

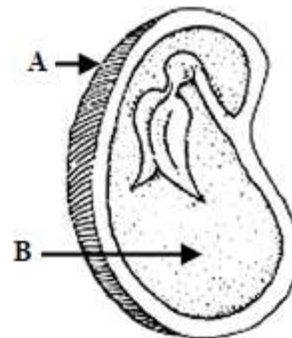
Q1 Part (c) 2011

(c) The diagram is of a section through a seed showing its structure.

Name the parts labelled A and B in the diagram.

Name of A _____

Name of B _____



Q3 Part (a) 2011

Question 3

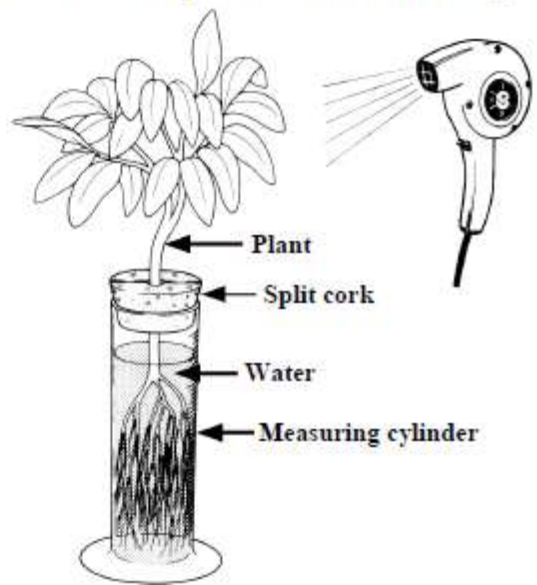
(39)

(a) Water vapour leaves plants through pores in their leaves into the atmosphere.

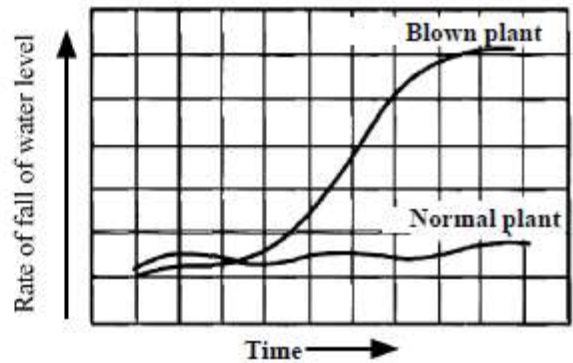
(i) What is this loss of water by plants called? (3)

A pupil did an experiment to investigate this loss of water by plants. The apparatus that she used is shown in the diagram. The rate at which the water level fell (water loss) in the measuring cylinder was measured at regular time intervals, first for a plant without the hair dryer (normal plant) and then for a plant with a hair dryer blowing warm air over the leaves (blown plant).

The pupil used the data obtained to draw the graph below.



(ii) Examine the graph and comment on the rate of water loss by the 'normal plant'. (3)



(iii) Examine the graph and comment on the rate of water loss by the 'blown plant'. (3)

(iv) What two factors were different for the 'blown plant'? (6)

- 1 _____
- 2 _____

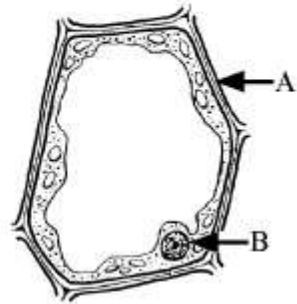
(v) Name the tissue that transports water up the plant from roots to leaves. (3)

Q1 Part (d) 2010

- (d) The diagram shows a plant cell.
Name the *parts* of the cell labelled A and B.

A _____

B _____



Q1 Part (g) 2010

- (g) A plant in an otherwise dark room bends towards the light from a window.

- (i) What is the *growth response* of a plant to light called?

What? _____

- (ii) What *benefit* does the plant get from this response?

What? _____

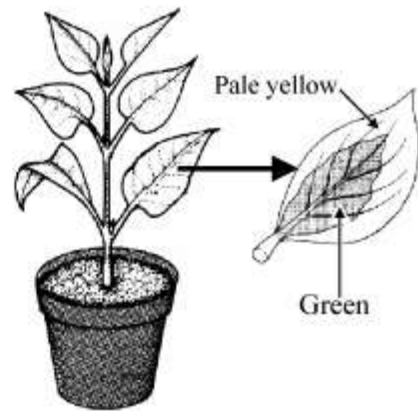


Q3 Part (a) and (b) 2010

Question 3

(39)

- (a) The diagram shows a plant with variegated leaves i.e. the leaves have areas with different colours. The leaves of this plant have a green centre with pale yellow margins. This plant was used in an experiment to investigate the production of starch by photosynthesis.



- (i) Why was the plant left in darkness for a day at the start of the experiment? (3)

Why? _____

- (ii) The plant was then exposed to bright light for some hours after which a leaf was removed and boiled in water for a few minutes. Why was the leaf boiled in water? (3)

Why? _____

- (iii) Draw a labelled diagram, in the box, showing the apparatus and named liquid used to remove the green pigment from the leaf. (6)

- (iv) The leaf was finally covered with a solution that turned the area which was previously green to blue-black while the leaf margins did not turn blue-black. Name the solution used. (3)

Name _____

- (v) Suggest a reason why the leaf margins did not turn blue-black. (3)

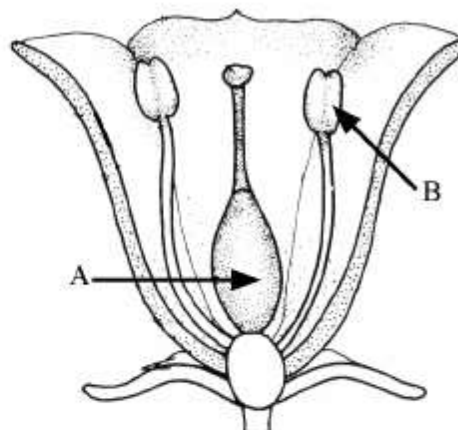
Suggest _____

- (b) The female part of the flower is called the carpel and the male part is called the stamen. The diagram is a cross section through a flower.

- (i) Name *part A* of the carpel and give its *role* in the sexual reproduction of plants. (6)

Name _____

Role _____



- (ii) Name *part B* of the stamen and give its *role* in the sexual reproduction of plants. (6)

Name _____

Role _____

- (iii) Give a *way* in which the pollen from the flower of one plant can be transferred to the flower of another plant. (3)

Give _____

- (iv) Name the *cell* that is formed when a male gamete (sperm) and a female gamete (egg) combine. (3)

Name _____

- (v) What does the *cell* formed by the fusion of the male and female gametes of a flowering plant *grow and develop* into? (3)

What? _____

Q1 Part (a) 2009

Question 1

(52)

(a) Name *two processes* that the *leaves of green plants* carry out.

(i) _____

(ii) _____



Q3 Part (b) 2007

(b) Pondweed is a green plant that lives in water. In the presence of light pondweed undergoes photosynthesis and a gas is produced as one of the products. Name the *gas* produced. (3)

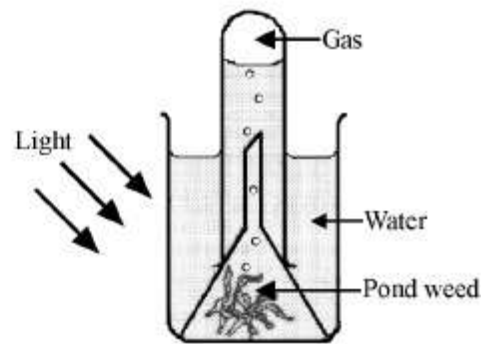
Name of gas _____

The pondweed, and all green plants, take in and use another gas, from their environment during photosynthesis. (3)

Name of gas used _____

How might the *rate of production* of bubbles, by the pondweed, be increased? (3)

How? _____



Q1 Part (h) 2006

- (h) The plant shown in the diagram was left in total darkness overnight and then exposed to strong sunlight for four hours. The *leaf* with the foil was removed from the plant and *tested for starch*. Clearly state the *result* you would expect from this test? What conclusion can be drawn?



Result _____

Conclusion _____