Photosynthesis and plant responses – exam questions

2012 - Higher

- Name a gas that moves into and a gas that moves out of a green leaf during active photosynthesis.

- Outline an experiment to show that photosynthesis produces starch

2011 - Higher

- Complete the word equation for photosynthesis.

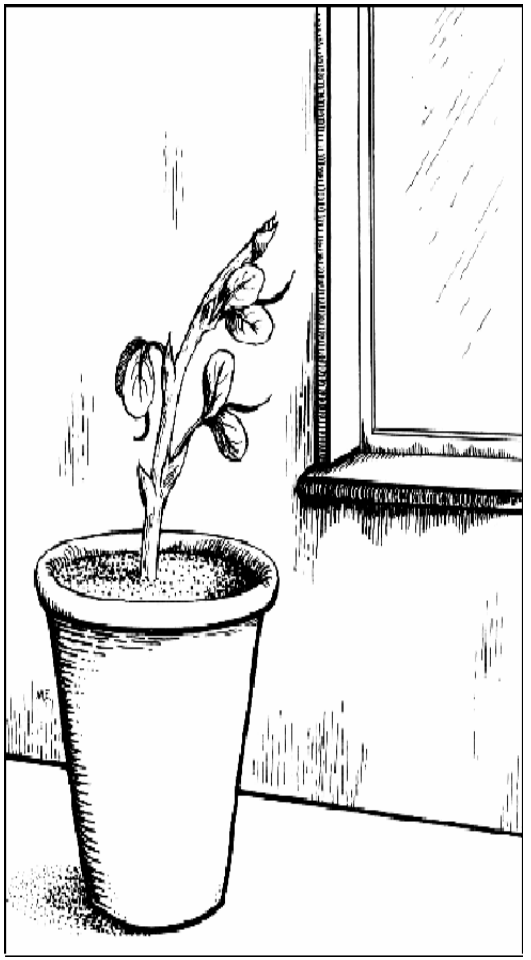
- Carbon dioxide + _____ →_____ + Oxygen

2010 - Higher

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

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

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



2010 - Higher

- Answer the following questions on an experiment to investigate the production of starch by photosynthesis.
- Why was the plant left in darkness for a day at the start of the experiment?
- 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?

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

- 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.

- Suggest a reason why the leaf margins did not turn blue-black.

2010 - Ordinary

- Name the process by which green plants make their food.
- Name the gas released by the plant during this process.
- Name the green chemical found in leaves that help plants make food.

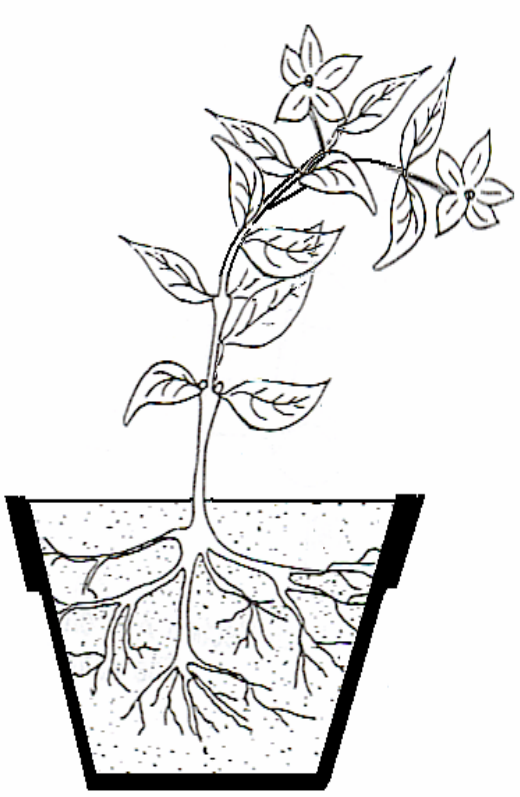
- The plant was left in the dark for 24 hours and then it was placed in bright light for 6 hours.
- A leaf was taken from the plant and boiled in a liquid to remove the green chemical.
- Name the liquid in which the leaf was boiled.
- An iodine solution was then poured onto the ‘white’ leaf and the leaf became blue/black in colour. What does this result tell us about the green leaf?

2009 - Higher

- Name ***two processes*** that the ***leaves*** of ***green plants*** carry out.

2009 - Ordinary

- What caused the plant to grow towards the window?
- **Name** this growth response of plants.



2007 - Higher

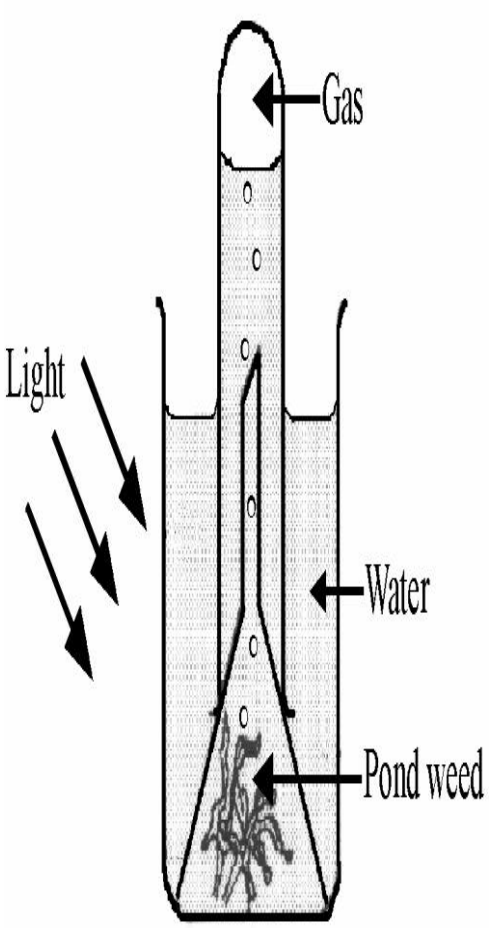
- Pondweed is a green plant that lives in water. In the presence of light pondweed undergoes photosynthesis and a gas is produced as one of the products.

Name the ***gas*** produced.

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

Name of gas used

- How might the ***rate of production*** of bubbles, by the pondweed, be increased?



2007 - Ordinary

- The diagram shows a plant that was left in sunlight for a few days.
- A test was carried out in the laboratory on a part of the plant to see if it had made food (starch).

- Write the letter **F** beside the name of the process by which plants make food.
- Write the letter **P** beside the name of the part of the plant where most of the food (starch) is made.
- Write the letter **C** beside the name of the substance which gives plants their green colour.
- Write the letter **S** beside the name of the chemical that produced a blue-black colour when it is used to test for starch.

	Chlorophyll
	Flower
	Iodine
	Leaf
	Litums
	Photosyntehsis
	Respiration

- **Phototropism** is the name given to a plant's response to light. **How** do plants respond to light?

- Describe, with the help of a labelled diagram, how you could set up an **investigation to show how plants respond to light**.

2006 - Higher

- 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?