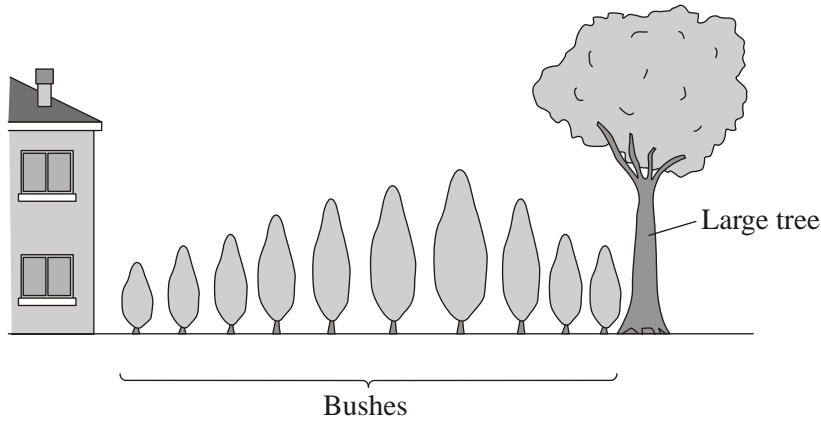


Photosynthesis

1. The diagram shows bushes in a hedge growing near to a house. The bushes were the same species and the same age.



- (a) (i) The student said, "I have noticed that the short bushes grow next to the house. I think that the more light the bushes get, the faster they will grow."

Draw lines to match each of the student's statements to the correct term.

Draw only two lines.

Statement

Term

The short bushes grow next to the house.

Plants will grow faster if they get more light.

A conclusion

A prediction

An observation

- (ii) Complete the word equation for photosynthesis.

..... + water (+ light energy) → + oxygen

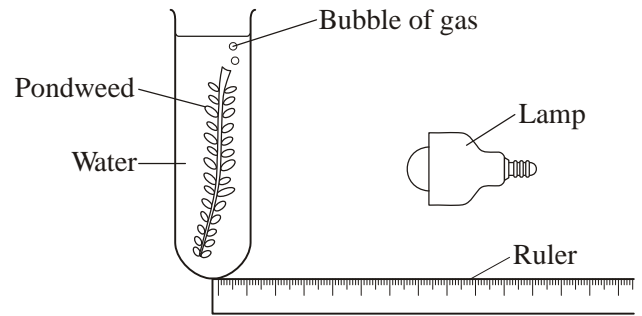
(2)

(2)

- (b) The student decided to investigate the effect of light intensity on the rate of photosynthesis.

She used the apparatus shown in the diagram.

She measured the rate of photosynthesis by counting the number of gas bubbles given off each minute.

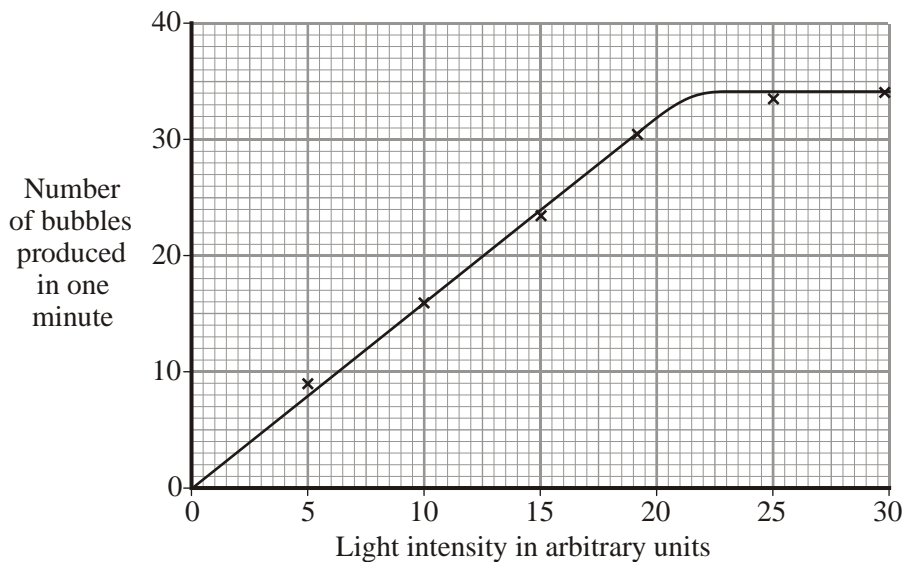


- (i) Suggest how the student varied the intensity of the light received by the pondweed.

.....

(1)

- (ii) The student's results are shown on the graph.



Describe the pattern shown on the graph.

.....

(2)

- (iii) This is what the student wrote for her conclusion.

“Increasing the light intensity increases the rate of photosynthesis of the pondweed.”

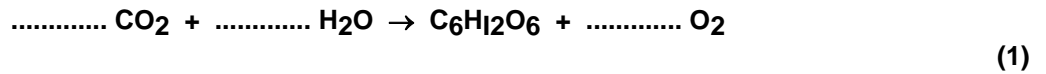
Why was her conclusion incomplete?

.....

(1)

(Total 8 marks)

2. (a) Balance the following equation for photosynthesis.



- (b) Give **two** conditions necessary for photosynthesis apart from a suitable temperature range and the availability of water and carbon dioxide.

1.
2. (2)

- (a) Plants have leaves which contain guard cells and palisade cells. Explain how **each** of these kinds of cell assists photosynthesis.

Guard cells
.....
.....
..... (2)

Palisade cells
.....
.....
..... (2)

- (d) Glucose is a product of photosynthesis. Give **three** uses which green plants make of glucose.

1.
2.
3. (3)
(Total 10 marks)