

# Revision Sheet

IGCSE Biology · Unit 6 Plant nutrition

8 vocabulary items · 36 marks of exam questions (5 questions)

Part 1 · Vocabulary review (8 items). The terms this unit is examined on most. Mark it yourself from the answer key.

## Section A · Chinese to English

Write the English word.

1.

[1]
2.

[1]
3.

[1]
4.

[1]
5.

[1]
6.

[1]
7.

[1]
8.

[1]

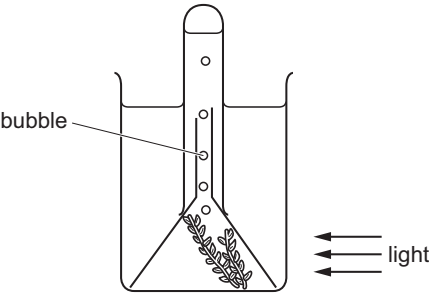
Part 2 · Exam questions (36 marks, 5 questions) begins on the next page. They are ordered easy to difficult and none of them has been set before.

9 The diagram shows an experiment to investigate the effect of increasing light intensity on the rate of photosynthesis in an aquatic plant.



The rate is found by measuring the rate of bubble release by the plant.

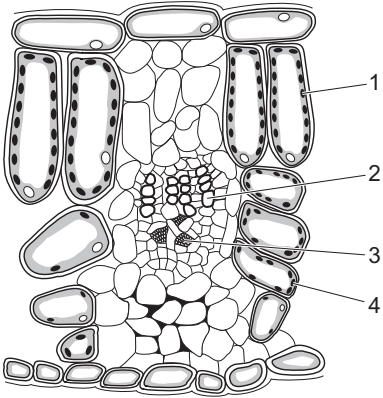
As the light intensity increases, the rate of bubble release increases and then becomes constant.



Which statement describes why the rate of bubble release becomes constant at high light intensities?

- A Carbon dioxide concentration becomes a limiting factor.
- B Light intensity becomes a limiting factor.
- C Oxygen availability becomes a limiting factor.
- D Water availability becomes a limiting factor.

10 The diagram shows a section through the leaf of a flowering plant.



Where does photosynthesis take place?

- A 1 and 2
- B 1 and 4
- C 2 and 3
- D 3 and 4

11 Photosynthesis is a process that occurs in plant cells.

- (a) (i) State the word equation for photosynthesis.  
..... [2]
- (ii) State the type of energy required for photosynthesis.  
..... [1]
- (b) Fig. 2.1 is a diagram of a section through a leaf.

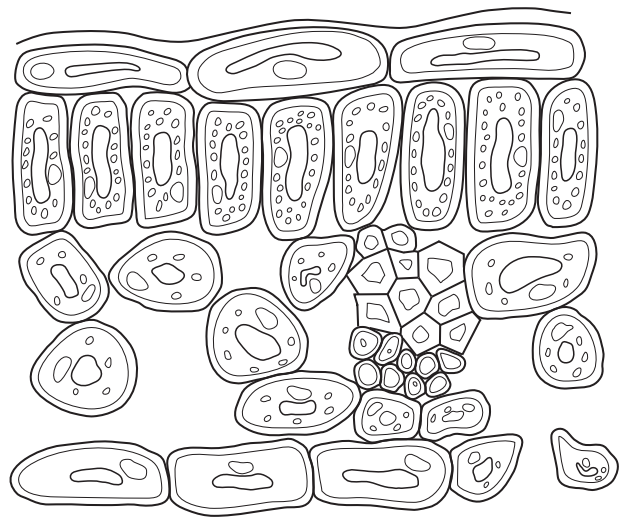


Fig. 2.1

- (i) On Fig. 2.1:
- label with a label line **and** the letter **A** the type of cell where most photosynthesis takes place.
  - label with a label line **and** the letter **B** the type of cell which conducts water through the plant.
- ..... [2]
- (ii) State the name of the cell structure where photosynthesis happens.  
..... [1]

(c) A student investigated the rate of photosynthesis in a plant at different temperatures.

The results are shown in Table 2.1.

Table 2.1

| temperature / °C | rate of photosynthesis / arbitrary units |
|------------------|------------------------------------------|
| 20               | 42                                       |
| 25               | 61                                       |
| 30               | 77                                       |
| 35               | 92                                       |
| 40               | 45                                       |

- (i) State the temperature at which the rate of photosynthesis is highest.  
..... °C [1]
- (ii) Calculate the percentage increase in the rate of photosynthesis from 20 °C to 30 °C.  
Give your answer to **three** significant figures.  
Space for working.

..... %  
[3]  
[Total: 10]

12 (a) Fig. 5.1 is a drawing of part of a cross-section of a leaf.

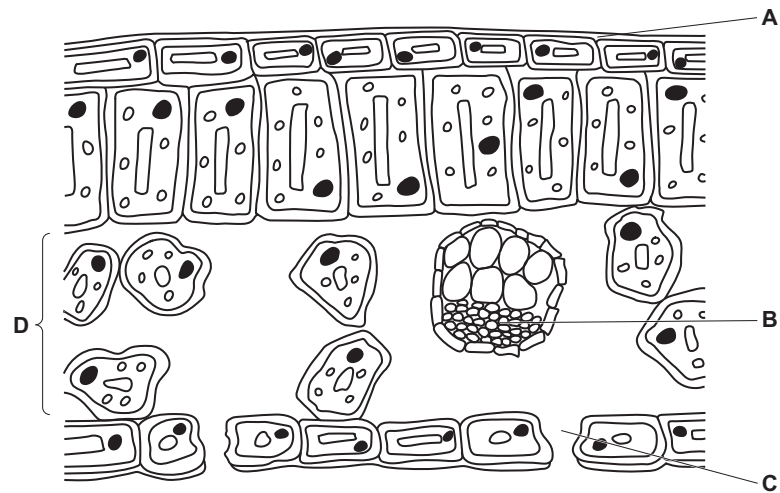


Fig. 5.1

(i) Complete Table 5.1 by stating the names of the parts labelled in Fig. 5.1.

Table 5.1

| letter in Fig. 5.1 | name of the part |
|--------------------|------------------|
| A                  |                  |
| B                  |                  |
| C                  |                  |
| D                  |                  |

[4]

(ii) State the number of guard cells shown in Fig. 5.1.

..... [1]

(b) The xylem is responsible for transporting water through the plant.

(i) State **one** other substance transported by the xylem.  
..... [1]

(ii) State the type of cell through which water enters a plant.  
..... [1]

(iii) Describe how water moves out of the leaves of a plant.  
.....  
.....  
.....  
.....  
.....  
..... [3]

(c) (i) State the word equation for photosynthesis.  
..... [2]

(ii) State the type of energy required for photosynthesis.  
..... [1]

[Total: 13]

**13 (a)** Fig. 4.1 shows the effect of light intensity on the rate of photosynthesis at different temperatures and concentrations of carbon dioxide.

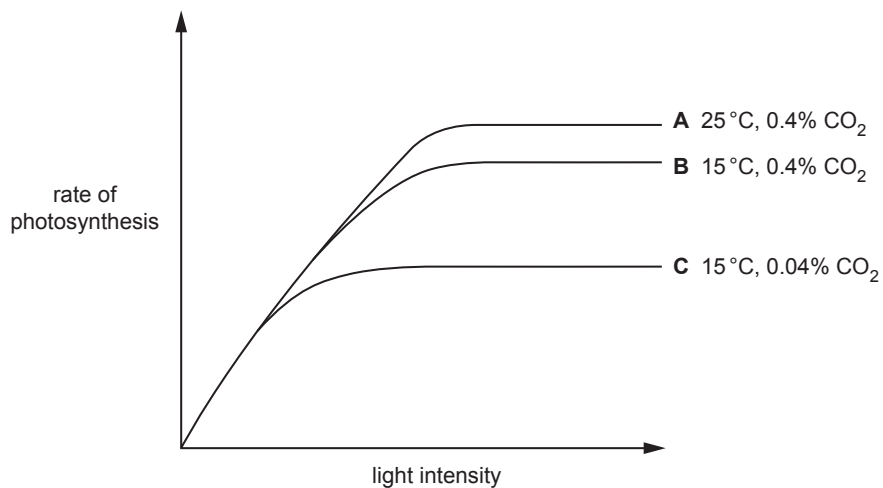


**Fig. 4.1**

Describe **and** explain the reasons for the shape of lines **B** and **C** in Fig. 4.1.

..... [6]

(b)  $C_6H_{12}O_6$  is one of the products of photosynthesis.

State the chemical formula of the **other** product.

..... [1]

**(c)** Outline how the carbohydrates made during photosynthesis are used in plants.

[4]

[Total: 11]