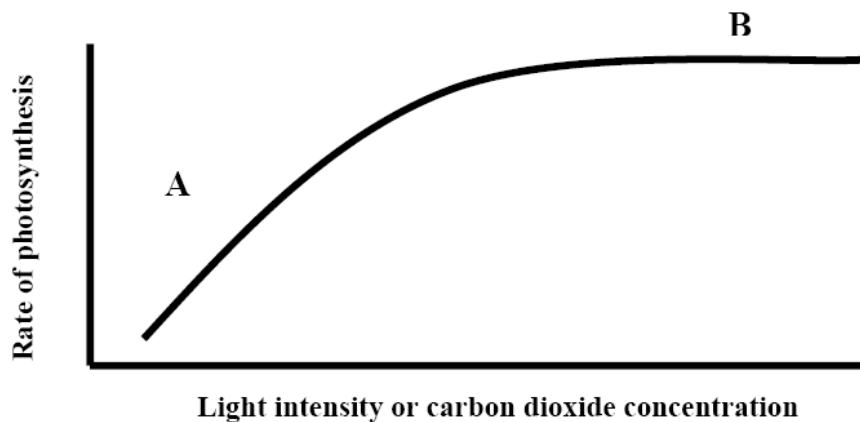


Q 4 2005

The following graph shows how the rate of photosynthesis varied when a plant was subjected to varying levels of light intensity **or** carbon dioxide concentration.



What is happening at A?

What is happening at B?

Suggest a reason for your answer in (b)

- (d) Where in a cell does photosynthesis take place?
- (e) Give **two** sources of the carbon dioxide that is found in the atmosphere.
- (f) Suggest **one** way in which the rate of photosynthesis of plants in a greenhouse could be increased.

Q 11 2006

11. (a) (i) What is the primary role of chlorophyll in photosynthesis?
- (ii) Write an equation to summarize photosynthesis. (9)
- (b) The second stage of photosynthesis is called the dark stage or light-independent stage.
- (i) Why is the dark stage given the alternative name of the light-independent stage?
 - (ii) Name a gas that is essential for the dark stage.
 - (iii) Two products of the light stage are vital for the dark stage. Name each of them.
 - (iv) State the precise role in the dark stage of each of the substances that you named in (iii).
 - (v) To what group of biomolecules do the main products of the dark stage belong? (24)

- (c) (i) Water is essential for photosynthesis. Briefly outline how water from the soil reaches the leaf.
- (ii) What happens to water molecules when they reach the sites of photosynthesis?

(27)

Q 9 2007

9. (a) State a precise role for each of the following in photosynthesis:

(i) Carbon dioxide

(ii) Water

(b) Answer the following questions in relation to an activity that you carried out to investigate the influence of light intensity OR carbon dioxide concentration on the rate of photosynthesis.

(i) Name the plant that you used.

(ii) How did you vary light intensity OR carbon dioxide concentration?

(iii) State a factor that you kept constant during the investigation.

(iv) How did you ensure that the factor that you mentioned in (iii) remained constant?

(v) How did you measure the rate of photosynthesis?

(vi) Using labelled axes, sketch a graph to show how the rate of photosynthesis varied with the factor mentioned in (ii) above.

Q 14(a) 2008

(a) (i) Name the openings in the leaf which allow the entry of carbon dioxide for photosynthesis.

State a factor which influences the diameter of these openings.

(ii) During photosynthesis oxygen is produced.

1. From what substance is oxygen produced?

2. In which stage of photosynthesis is oxygen produced?

3. Give **two** possible fates of oxygen following its production.

(iii) Give an account of the role of each of the following in photosynthesis:

1 ATP,

2 NADP.