

AQA, OCR, Edexcel

A Level

A Level Biology

Photosynthesis 1 Questions

Name:

M M E

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Total Marks: /20

Photosynthesis

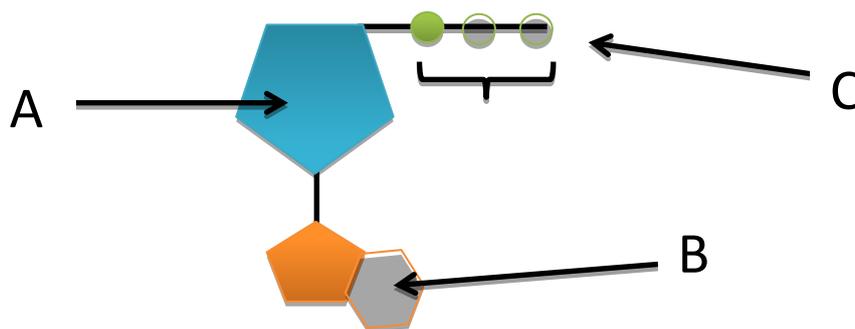
All living cells require energy to carry out essential cell processes and reactions. Photosynthesis is the process by which energy from light is used to make energy.

1. Some of the biological processes that require energy in plants are active transport, cell division and protein synthesis.

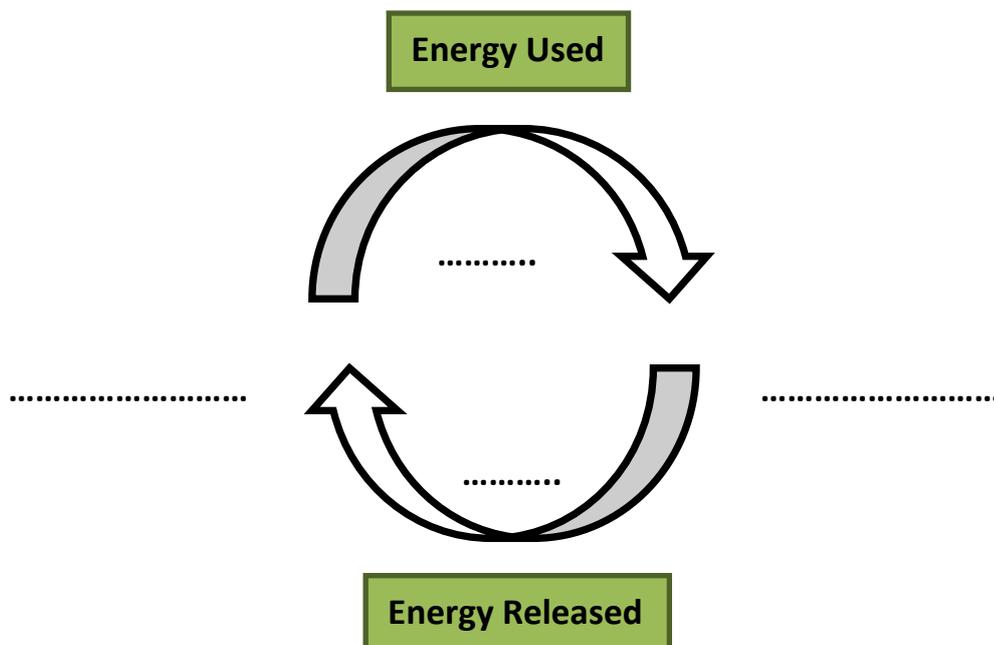
a) i) Write the symbol equation for photosynthesis. (2 marks)

b) ATP is how energy exists in cells.

i) Label the parts of the ATP molecule shown below labelled A, B & C. (3 marks)



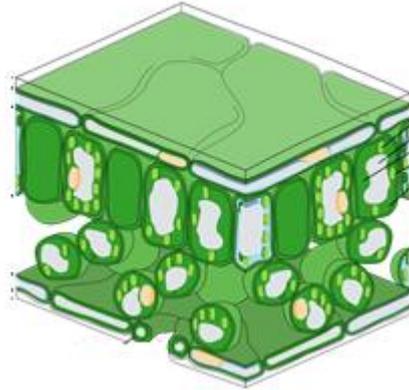
ii) ATP is broken down and energy released through a reversible reaction. Label the diagram below to show how enzymes hydrolyse and synthesise ATP. (4 marks)



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iii) Identify two properties of ATP that make it a good immediate energy source. (2 marks)

c) Photosynthesis is a complex process that occurs in the leaf cells of plants. The diagram below shows a palisade leaf cell.



- i) Why have leaves adapted to have air spaces? (1 mark)
- ii) Identify four other ways in which the leaf cell is adapted for maximum photosynthesis to occur. (4 marks)
- iii) What is meant by the term metabolic pathway? (1 mark)
- iv) Using a named example, explain the role of coenzymes in photosynthesis. (3 marks)