

AQA, OCR, Edexcel

A Level

A Level Biology

Respiration 1 Answers

Name:

M M E

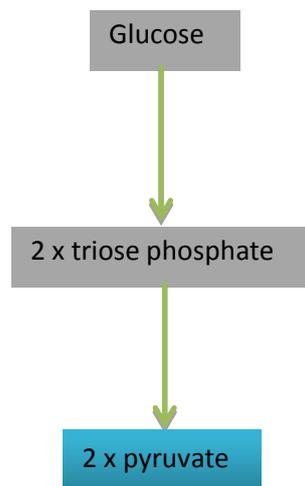
Mathsmadeeasy.co.uk

Total Marks: /17

Respiration

Respiration is a process that occurs in the cells of living organisms to synthesise the energy needed to keep organisms alive.

1. Cellular respiration involves breaking down glucose to release energy.
 - a) i) What is the symbol equation for aerobic respiration? (2 marks)
 - b) Aerobic respiration takes place in the mitochondria of cells.
 - i) Identify the two parts of the mitochondria that are involved in respiration. (2 marks)
 - ii) Where else in the cell does respiration take place? (1 mark)
 - iii) What is the difference between catabolic and anabolic reactions? (2 marks)
2. The first stage of respiration is glycolysis. It is a series of reactions involving phosphorylation and oxidation.
 - a) i) What is meant by the term phosphorylation? (1 mark)
 - ii) Identify on the diagram below the process of phosphorylation in glycolysis. (1 mark)



- b) Glycolysis ultimately produces 2 molecules of pyruvate.
 - i) What is meant by the term 'oxidised'? (1 mark)

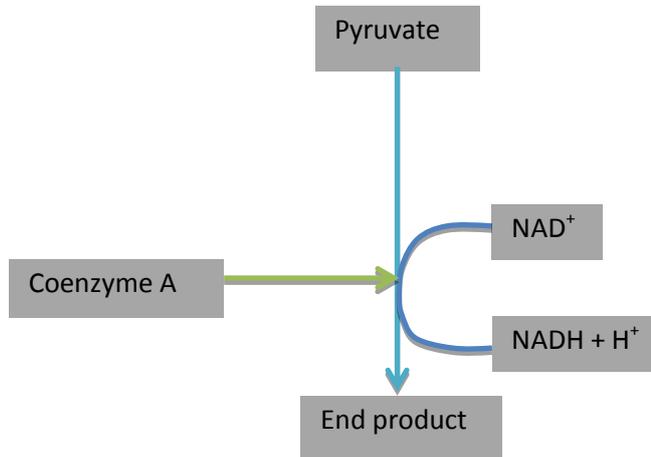
Visit <http://www.mathsmadeeasy.co.uk/> for more fantastic resources.

ii) What is the function of NAD? (1 mark)

iii) How many ATP molecules are produced in glycolysis? (2 marks)

c) The link reaction occurs between glycolysis and the Krebs cycle.

i) On the diagram below, draw on the process of the decarboxylation of pyruvate.
(1 mark)



ii) What is the end product of the link reaction? (1 mark)

iii) How is pyruvate converted to the end product? (1 mark)

iv) How many times does the link reaction occur for every glucose molecule?
(1 mark)