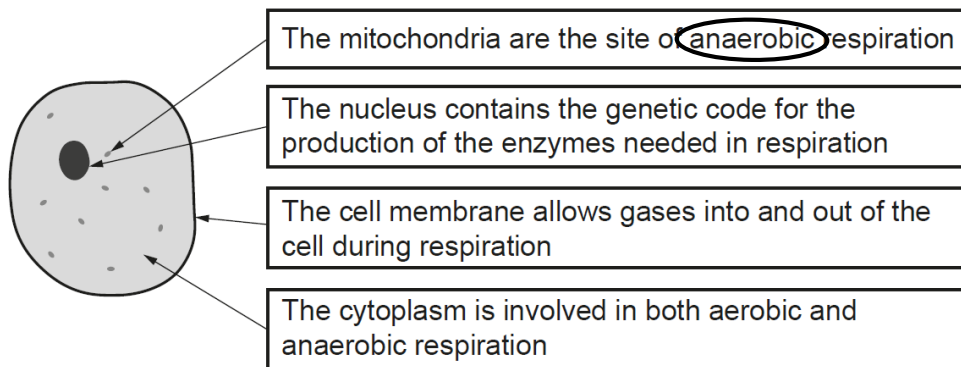


GCSE Biology B (Twenty First Century Science)
J257/03 Breadth in Biology (Higher)

Question Set 11

- 1 (a) (i) Cellular respiration takes place in all cells. A student annotated a diagram of a cell to describe how different parts of the cell are involved in respiration.



The student has made a mistake in their annotations.

Identify the mistake in the annotation by **drawing** a **ring** around it.

[1]

- (ii) Write a correction for the student's mistake.

The mitochondria are the site of aerobic respiration.

[1]

- (b) Describe the similarities **and** differences between **anaerobic** respiration in animal cells and yeast cells.

[3]

In both animal and yeast cells, anaerobic respiration takes place in the cytoplasm in the absence of O_2 . Glucose or other organic molecules serve as the reactant molecules and are broken down in both cells. 2 ATP are produced per glucose molecule in both cells. However, whilst lactic acid is produced in animal cells, ethanol and carbon dioxide are produced as waste products in yeast cells.

- (c) Write down **two** uses of the ATP produced during **aerobic** respiration in the human body.

Active transport. Muscle contraction.

[2]

Total Marks for Question Set 11: 7

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