Definitions and Concepts for AQA Biology GCSE

Topic 4: Bioenergetics

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*Definitions in **bold** are for higher tier only*

Definitions marked by '' are for separate sciences only*

Aerobic respiration: A form of respiration that uses oxygen to release energy from molecules like glucose - represented by the following word equation:

$$\text{Glucose} + \text{Oxygen} \longrightarrow \text{Carbon dioxide} + \text{Water}$$

Anaerobic respiration: A form of respiration that releases energy from molecules like glucose without using oxygen - represented by the following word equation:

$$\text{Glucose} \longrightarrow \text{Lactic acid}$$

Cellular respiration: An exothermic reaction which is continuously occurring in living cells.

Inverse proportion: A relationship between two values where as one value increases, the other value decreases at the same rate.

Inverse square law: As the distance from a light source increases, the light intensity is inversely proportional to the distance squared - given by the following equation:

$$Light\ intensity \propto \frac{1}{(Distance\ from\ the\ light\ source)^2}$$

Limiting factor: A factor that limits the rate of a reaction when there is not enough of it.

Metabolism: The sum of all the reactions in a cell or the body.

Oxygen debt: The amount of extra oxygen the body needs after exercise to react with the accumulated lactic acid and remove it from the cells.✢

Photosynthesis: An endothermic reaction in which energy is transferred from the environment to the chloroplasts by light.