

## Definitions and Concepts for AQA Chemistry GCSE

### Topic 5 - Energy Changes

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

*Definitions marked by '\*' are for separate sciences only*

*Definitions have been taken, or modified from the [AQA Specification for GCSE Chemistry, 8462, Version 1.1 04 October 2019](#).*

**Activation energy:** The minimum amount of energy for particles to collide with in order for a successful reaction to occur.

\***Alkaline batteries:** Alkaline batteries are non-rechargeable. In non-rechargeable cells and batteries the chemical reactions stop when one of the reactants has been used up.

\***Battery:** Batteries consist of two or more cells connected together in series to provide a greater voltage.

\***Chemical cells:** Cells contain chemicals which react to produce electricity

**Endothermic reaction:** An endothermic reaction is one that takes in energy from the surroundings so the temperature of the surroundings decreases. **In an endothermic reaction, the energy needed to break existing bonds is greater than the energy released from forming new bonds.**

**Exothermic reaction:** An exothermic reaction is one that transfers energy to the surroundings so the temperature of the surroundings increases. **In an exothermic reaction, the energy released from forming new bonds is greater than the energy needed to break existing bonds.**

\***Fuel cells:** Fuel cells are supplied by an external source of fuel (eg hydrogen) and oxygen or air. The fuel is oxidised electrochemically within the fuel cell to produce a potential difference

**Overall energy change of the reaction:** The difference between the sum of the energy needed to break bonds in the reactants and the sum of the energy released when bonds in the products are formed.

**Reaction profile:** Reaction profiles can be used to show the relative energies of reactants and products, the activation energy and the overall energy change of a reaction.



**\*Rechargeable cells:** Rechargeable cells and batteries can be recharged because the chemical reactions are reversed when an external electrical current is supplied.

