

# Definitions and Concepts for WJEC (Eduqas) Chemistry GCSE

## Topic 8 - Energy Changes in Chemistry

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

Definitions have been taken, or modified from the [WJEC \(Eduqas\) Specification for GCSE Chemistry, C410, Version 3 January 2019](#)

**Activation energy:** The minimum amount of energy that particles must collide with to react.

**Chemical cell:** A cell which converts chemical energy to electrical energy. They are made up of two metal electrodes connected by an electrolyte. The cell produces a voltage until one of the reactants is used up.

**Endothermic reaction:** A reaction that takes in energy from the surroundings so the temperature of the surroundings decreases. **The energy needed to break existing bonds is greater than the energy released from forming new bonds.**

**Exothermic reaction:** A reaction that transfers energy to the surroundings so the temperature of the surroundings increases. **The energy released from forming new bonds is greater than the energy needed to break existing bonds.**

**Fuel cell:** An electrochemical cell which continuously produces a voltage when supplied with a fuel and oxygen. The fuel donates electrons at one electrode and oxygen gains electrons at the other electrode.

**Hydrogen-oxygen fuel cell:** A fuel cell in which hydrogen and oxygen are the reactants used to produce a voltage. Water is the only product. The overall reaction for the hydrogen-oxygen fuel cell is:  $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$

**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:** Graph used to show the relative energies of reactants and products, the activation energy and the overall energy change of a reaction.

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