

IGCSE Chemistry (9-1) Specification 3(a)

(a) Energetics

Students should:

3.1 know that chemical reactions in which heat energy is given out are described as exothermic, and those in which heat energy is taken in are described as endothermic

3.2 describe simple calorimetry experiments for reactions such as combustion, displacement, dissolving and neutralisation

3.3 calculate the heat energy change from a measured temperature change using the expression $Q = mc\Delta T$

3.4 calculate the molar enthalpy change (ΔH) from the heat energy change, Q

3.5C draw and explain energy level diagrams to represent exothermic and endothermic reactions

3.6C know that bond-breaking is an endothermic process and that bond-making is an exothermic process

3.7C use bond energies to calculate the enthalpy change during a chemical reaction

3.8 practical: investigate temperature changes accompanying some of the following types of change:

- salts dissolving in water
- neutralisation reactions
- displacement reactions
- combustion reactions.