EXAM TECHNIQUE RESOURCE

Examiner's Phrases Bank

What Students Write vs. What Scores Marks

A Level Chemistry · AQA · Edexcel · OCR A

10 high-mark topics · 50 student phrases · 50 mark-scoring answers

122	118	10	3
Question Papers	Mark Schemes	Topics Covered	Exam Boards

How to use this resource

The left column shows the kind of phrasing students typically write under exam pressure. The right column shows the precise language that scores marks on the mark scheme.

Use this alongside past papers. After marking each answer, compare your phrasing to the right-hand column. In A Level Chemistry, the difference between A and A* is often a single word, a sign, or a qualifier — not the chemistry itself.

Specification references are given for AQA (7405), Edexcel (9CH0) and OCR A (H432).

www.chemistrywithchloe.com

Expert A Level Chemistry Tuition · Oxford-Trained · © 2026

Topic 01

Kinetics & Maxwell–Boltzmann

AQA 3.1.5 & 3.1.9 · Edexcel Topics 10 & 14 · OCR Module 5.1

What students write	What scores marks
Molecules have more energy	**A greater proportion of molecules have energy greater than or equal to the activation energy (Ea)**
More molecules can react	**The area under the Maxwell–Boltzmann curve to the right of Ea increases significantly**
Rate increases a lot for a small temperature rise	**A small increase in temperature causes a large increase in the proportion of molecules with energy ≥ Ea — so many more successful collisions occur per unit time**
Catalyst lowers activation energy	**A catalyst provides an alternative reaction pathway with a lower activation energy; the Maxwell–Boltzmann distribution is UNCHANGED but more molecules now have energy ≥ the new, lower Ea**
More collisions happen	**Collision frequency increases, but the MAIN FACTOR is the greater proportion of molecules exceeding Ea**

Topic 02

Equilibrium & Le Chatelier’s Principle

AQA 3.1.6 · Edexcel Topics 10 & 11 · OCR Module 5.1

What students write	What scores marks
Reaction moves to the right	**The position of equilibrium shifts to the right; the rate of the forward reaction exceeds the rate of the reverse reaction until a new equilibrium is established**
More product is made	**The yield of [named product] increases**
Temperature change moves equilibrium	**Increasing temperature favours the endothermic direction, so Kc INCREASES / DECREASES [choose correctly for the reaction]**
Catalyst speeds things up	**A catalyst increases the rate at which equilibrium is attained but does NOT change the position of equilibrium or the value of Kc**
Pressure affects equilibrium	**Increasing pressure shifts the equilibrium towards the side with fewer moles of gas**

Topic 03

Acids, Bases & Buffers

AQA 3.1.12 · Edexcel Topic 12 · OCR Module 5.1

What students write	What scores marks

The acid gives off H^+	**The weak acid partially dissociates to release H^+ ions: $HA \rightleftharpoons H^+ + A^-$**
Buffer resists pH change	**The buffer resists changes in pH on addition of small amounts of acid or alkali. Added H^+ reacts with A^-; added OH^- reacts with HA**
Water splits apart	**Water undergoes self-ionisation: $H_2O \rightleftharpoons H^+ + OH^-$; $K_w = [H^+][OH^-]$**
Strong acid fully reacts	**A strong acid is completely (fully) dissociated in aqueous solution**
pH goes up when heated	**Kw INCREASES with temperature (endothermic dissociation); pH decreases but the solution remains neutral because $[H^+] = [OH^-]$**

Topic 04

Organic Mechanisms — Curly Arrows

AQA 3.3 · Edexcel Topics 15–19 · OCR Modules 4 & 6

What students write	What scores marks
Arrow from the carbon	**Curly arrow from the C=C π bond to the δ+ H of HBr (electrophilic addition)**
Arrow from the molecule	**Curly arrow from the lone pair on the nucleophile (e.g. lone pair on O of OH^-) to the δ+ carbon**
Arrow to show bond breaking	**Curly arrow from the C–X bond to X, showing heterolytic fission; X leaves as X^-**
The electrons move to the product	**The curly arrow originates from a bond or lone pair and points to the atom forming the new bond**
Intermediate forms	**A carbocation intermediate forms at the more substituted carbon (Markovnikov); stabilised by adjacent alkyl groups**

Topic 05

Redox & Electrochemistry

AQA 3.1.7 & 3.1.11 · Edexcel Topics 3 & 13 · OCR Modules 3 & 5

What students write	What scores marks
Electrons are lost	**Oxidation is the loss of electrons / increase in oxidation state (OIL RIG)**
The cell works	**The cell is thermodynamically feasible because the EMF is positive: $E^\ominus cell = E^\ominus(cathode) - E^\ominus(anode) > 0$**

Half equation is balanced	**Balance atoms first, then balance charge using electrons; combine half-equations so that electrons cancel**
Oxidation state changes	**The oxidation state of [element] changes from [+x] to [+y], so it is oxidised / reduced [state which]**
It won't necessarily react	**A positive E⊖cell indicates thermodynamic feasibility only — the reaction may be kinetically hindered (high Ea) under non-standard conditions**

Topic 06

Enthalpy & Energetics

AQA 3.1.4 & 3.1.8 · Edexcel Topics 8 & 9 · OCR Modules 3 & 5

What students write	What scores marks
Energy is released	**The reaction is exothermic; ΔH is negative; energy is released to the surroundings**
Hess's Law says same energy	**By Hess's Law, the enthalpy change is independent of the route taken between the same reactants and products**
Bonds break and form	**ΔH = Σ(bonds broken) − Σ(bonds formed); energy is required to break bonds (+) and released when bonds form (−)**
Born–Haber cycle adds up	**The sum of all enthalpy changes around the Born–Haber cycle equals zero (Hess's Law); rearrange to find the unknown lattice enthalpy**
More covalent character	**The experimental lattice enthalpy is more exothermic than the theoretical (ionic model) value, indicating covalent character due to polarisation of the anion by the cation**

Topic 07

Rate Equations & Reaction Orders

AQA 3.1.9 · Edexcel Topic 14 · OCR Module 5.1

What students write	What scores marks
It's first order	**The reaction is first order with respect to [A]; doubling [A] doubles the rate; the concentration–time graph shows exponential decay with a constant half-life**
Rate equation from equation	**The rate equation cannot be deduced from the stoichiometric equation; it must be determined experimentally**

Slowest step determines rate	**The rate-determining step (rds) is the slowest step in the mechanism; species in the rate equation appear in or before the rds**
k changes with temperature	**The rate constant k increases with temperature (Arrhenius: k = Ae^(−Ea/RT)); plotting ln k vs 1/T gives a straight line, gradient = −Ea/R**
Second order means doubled	**The reaction is second order with respect to [A]; doubling [A] quadruples the rate; rate–concentration graph is a curve through the origin**

Topic 08 — Thermodynamics — Entropy & Gibbs

AQA 3.1.8 · Edexcel Topic 9 · OCR Module 5.1

What students write	What scores marks
Reaction is possible	**The reaction is thermodynamically feasible because ΔG ≤ 0 (ΔG = ΔH − TΔS)**
More disorder	**Entropy increases because there are more moles of gas in the products / a solid dissolves to form ions / solid → liquid → gas**
ΔG being negative means it happens	**A negative ΔG indicates thermodynamic feasibility but does NOT guarantee the reaction occurs — there may be a kinetic barrier (high Ea)**
Temperature when it becomes possible	**ΔG = 0 at the boundary of feasibility; T = ΔH / ΔS (units must be consistent: ΔS in kJ K^{-1} mol^{-1})**
Entropy of gases is higher	**Gases have greater entropy than liquids, which have greater entropy than solids, due to increasing freedom of movement of particles**

Topic 09 — Transition Metals & Complexes

AQA 3.2.5 · Edexcel Topic 16 · OCR Module 5.2

What students write	What scores marks
Colour comes from d-electrons	**d-orbital splitting by ligands creates two energy levels; electrons are promoted by absorbing visible light (ΔE = hν); the complementary colour is observed**
Colour changes when ligand changes	**The colour changes because the ligand field splitting energy (ΔE) changes when the ligand, oxidation state, or co-ordination number changes**
EDTA replaces all ligands	**$EDTA^{4-}$ is a hexadentate ligand; substitution releases 6 water molecules, increasing the number of free particles — ΔS is positive (chelate effect)**

It's more stable	**The complex with bidentate/multidentate ligands is more thermodynamically stable (more negative ΔG) due to the positive entropy change on ligand substitution**
Transition metal because d-electrons	**A transition metal is a d-block element that forms at least one stable ion with an incomplete d sub-shell; Sc and Zn are NOT transition metals**

Topic 10

Optical & Geometric Isomerism

AQA 3.3.7 · Edexcel Topic 17 · OCR Modules 4.2 & 6.2

What students write	What scores marks
Mirror images	**Enantiomers are non-superimposable mirror images; they possess a chiral centre — a carbon atom bonded to four different groups**
Both forms are produced	**A racemic mixture (racemate) is produced — an equal mixture of both enantiomers — because the planar intermediate is attacked equally from both faces**
Different arrangements	**E/Z isomerism arises from restricted rotation about the C=C double bond; priority assigned by CIP rules (higher atomic number = higher priority)**
Rotates light	**A single enantiomer rotates the plane of plane-polarised light; the two enantiomers rotate by equal angles in opposite directions; a racemic mixture shows no net optical activity**
SN1 gives a mixture	**SN1 proceeds via a planar carbocation intermediate, attacked equally from both faces, producing a racemic mixture with no net optical activity**