

National curriculum or specification coverage

- 4.2 Bonding, structure and properties of matter: covalent/metallic bonding, structures, polymers, alloys and nanoparticles (chemistry only)
 - 4.3 Quantitative chemistry: relative formula mass, moles, reacting masses, percentage yield and atom economy (chemistry only), concentration, titration and gas volumes
 - 4.4 Chemical changes: reactivity, extraction, acids and salts, titrations (chemistry only), strong/weak acids (HT) and electrolysis
 - 4.5 Energy changes: exothermic/endothermic reactions, reaction profiles, bond energies (HT), cells and fuel cells (chemistry only)
 - 4.6 Rates of reaction, reversible reactions, dynamic equilibrium and Le Chatelier's principle (HT)
 - 4.7 Organic chemistry: crude oil, cracking, alkenes, alcohols, carboxylic acids and synthetic/naturally occurring polymers (chemistry-only extensions)
 - Required practicals in this teaching sequence: RP1 salts; RP2 titration; RP3 electrolysis; RP4 temperature changes; RP5 rates of reaction.
- Specification: AQA GCSE Chemistry (8462), separate Chemistry. HT content is explicitly labelled. C1 and earlier C2 lessons are prior learning in year 9.

Date	Exams/ Assessments	Learning Intentions	Core Task/Assessments
01/09/26	INSET (MON, TUE)	• C2.5 Covalent Bonding — Explain covalent bonding as shared pairs of electrons and electrostatic attraction between nuclei and shared electrons; draw dot-and-cross diagrams for small molecules. [AQA 4.2.1.4]	
07/09/26		• C2.6 Simple Structures — Relate weak intermolecular forces in small covalent molecules to low melting/boiling points; explain poor electrical conductivity and the effect of molecular size. [AQA 4.2.2.4] • C2.7 Giant Covalent Structures — Describe giant covalent structures of diamond, graphite and silicon dioxide; link bonding and delocalised electrons to hardness, melting point and conductivity. [AQA 4.2.2.6; 4.2.3.1–4.2.3.2] • C2.8 Metallic Bonding — Explain metallic bonding as attraction between positive metal ions and delocalised electrons; link structure to conduction and malleability. [AQA 4.2.1.5; 4.2.2.8]	
14/09/26		• C2.9 Properties of Metals and Alloys — Explain why pure metals are malleable and alloys are harder, using the arrangement and movement of atomic layers; compare electrical and thermal conductivity. [AQA 4.2.2.7–4.2.2.8] • C2.10 Polymers — Explain that polymers contain very large molecules made from repeating units; relate polymer structure and intermolecular forces to physical properties. [AQA 4.2.2.5]	
21/09/26		• C2.11 Bonding Overview — Compare ionic, covalent and metallic bonding and use structure-and-bonding models to predict properties of unfamiliar substances. [AQA 4.2.1–4.2.3] • C2.12 Nanoparticles — Separate Chemistry: describe nanoparticles (1–100 nm), high surface-area-to-volume ratios, uses in catalysts, medicine and coatings, and potential risks/uncertainty. [AQA 4.2.4.1–4.2.4.2 (chemistry only)] • C2.12 Application of Nanoparticles — Separate Chemistry: describe nanoparticles (1–100 nm), high surface-area-to-volume ratios, uses in catalysts, medicine and coatings, and potential risks/uncertainty. [AQA 4.2.4.1–4.2.4.2 (chemistry only)]	
28/09/26		• C2.13 Bonding Standard Task — Bonding standard task: assess particle diagrams, bonding types, structure–property explanations, alloys and separate-chemistry nanoparticles. [AQA 4.2.1–4.2.4]	C2.13 Bonding Standard Task C2.14 Bonding Feedback

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		• C2.14 Bonding Feedback — Bonding feedback: diagnose misconceptions and improve extended structure–property explanations and nanoparticle evaluation. [AQA 4.2.1–4.2.4]	
05/10/26		• C4.1 The Reactivity Series — Use displacement and reactions with water/dilute acids to construct the metal reactivity series; relate metal reactivity to electron loss. [AQA 4.4.1.1–4.4.1.2] • C4.2 Displacement Reactions - PRAC — Practical: compare displacement reactions of metals and salt solutions, recording observations and writing word/symbol equations; link to relative reactivity. [AQA 4.4.1.2] • C4.3 Extracting Metals — Explain reduction of metal oxides by carbon and why metals above carbon require electrolysis; identify oxidation/reduction and HT electron transfer. [AQA 4.4.1.3–4.4.1.4]	
12/10/26		• C4.4 Salts from Metals — Describe acid–metal reactions producing a salt and hydrogen; identify salt names and write balanced equations. [AQA 4.4.2.1–4.4.2.2] • C4.5 Salts from Insoluble Bases — Explain acid–base neutralisation and preparation of a soluble salt using excess insoluble metal oxide/carbonate, filtration and crystallisation. [AQA 4.4.2.2–4.4.2.3]	
19/10/26		• C4.6 Req Prac Making Salts (copper sulfate) — Required practical 1: prepare pure dry copper sulfate crystals from sulfuric acid and excess copper oxide; heat, filter, evaporate and crystallise safely. [AQA 4.4.2.3; RP1] • C4.7 Neutralisation — Use the pH scale, indicators and pH probes; explain acid/alkali neutralisation as $H^+ + OH^- \rightarrow H_2O$. [AQA 4.4.2.2; 4.4.2.4] • C4.8 Titrations — Separate Chemistry: explain titration apparatus, end-point indicators and accurate reacting volumes for strong acids and strong alkalis. [AQA 4.4.2.5 (chemistry only); RP2]	
02/11/26	INSET (MON)	• C4.9 Strong and Weak Acids — HT: distinguish strong/weak acids by degree of ionisation; relate acid concentration and pH, including tenfold changes in H^+ concentration per pH unit. [AQA 4.4.2.6 (HT)] • C4.10 Chemical Changes Standard Task — Chemical changes standard task: assess reactivity, extraction, salt preparation, pH, titration and HT acid strength. [AQA 4.4.1–4.4.2]	C4.10 Chemical Changes Standard Task
09/11/26		• C4.11 Chemical Changes Feedback — Chemical changes feedback: address misconceptions, practical method evaluation and balanced equations. [AQA 4.4.1–4.4.2] • C4.12 Introduction to Electrolysis — Explain electrolysis as decomposition of ionic compounds using electricity; identify electrolyte, anode/cathode and ion movement. [AQA 4.4.3.1] • C4.13 - Electrolysis of Molten Compounds — Predict products of molten-compound electrolysis; write electrode half-equations, including oxidation and reduction (HT). [AQA 4.4.3.2; 4.4.3.5 (HT)]	C4.11 Chemical Changes Feedback
16/11/26		• C4.14 Electrolysis of Aluminium — Explain aluminium extraction from aluminium oxide dissolved in cryolite; account for energy demand and consumption of carbon anodes. [AQA 4.4.3.3] • C4.15 Electrolysis of Aqueous Solutions — Predict products at inert electrodes in aqueous electrolysis using metal reactivity and halide rules; HT half-equations. [AQA 4.4.3.4–4.4.3.5]	
23/11/26		• C4.16 Req Prac Electrolysis of Aq Solutions — Required practical 3: electrolyse aqueous ionic solutions with inert electrodes; identify products, develop hypotheses and evaluate evidence. [AQA 4.4.3.4; RP3] • C5.1 Exothermic and Endothermic Reactions — Distinguish exothermic and endothermic reactions using energy transfer to/from surroundings and temperature changes; apply to familiar examples. [AQA 4.5.1.1] • C5.2 Req Prac Endothermic and Exothermic Reactions — Required practical 4: investigate temperature changes for reacting substances; record initial/final temperatures, control variables and evaluate heat loss. [AQA 4.5.1.1; RP4]	

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30/11/26		• C5.3 Reaction Profiles — Draw and interpret reaction profiles for exothermic/endothermic reactions; label activation energy and overall energy change. [AQA 4.5.1.2] • C5.4 Bond Energy Calculations — HT: calculate overall energy changes from supplied bond energies, distinguishing energy needed to break bonds and released forming bonds. [AQA 4.5.1.3 (HT)]	
07/12/26		• C5.5 Chemical Cells and Batteries — Separate Chemistry: explain chemical cells, potential difference and how different metals/electrolytes affect cell voltage; distinguish primary and rechargeable cells. [AQA 4.5.2.1 (chemistry only)] • C5.6 Fuel Cells — Separate Chemistry: describe hydrogen–oxygen fuel cells, electrode reactions (HT where appropriate) and compare fuel cells with rechargeable batteries. [AQA 4.5.2.2 (chemistry only)] • C5.7 Electrolysis and Energy Changes Standard Task — Electrolysis and energy changes standard task: assess electrolysis, required practicals, reaction profiles, bond energies and separate-chemistry cells. [AQA 4.4.3; 4.5]	C5.7 Electrolysis and Energy Changes Standard Task
14/12/26		• C5.8 Electrolysis and Energy Changes Feedback — Feedback: improve electrolysis predictions, practical evaluation and energy-profile/bond-energy explanations. [AQA 4.4.3; 4.5] • C3.1 Writing and Balancing Chemical Equations — Apply conservation of mass to write formulae and balance symbol equations; use state symbols correctly. [AQA 4.3.1.1; 4.2.2.2]	C5.8 Electrolysis and Energy Changes Feedback
04/01/27		• C3.2 Relative Formula Mass — Calculate relative formula mass from relative atomic masses and chemical formulae. [AQA 4.3.1.2] • C3.3 % Element in a Compound — Calculate percentage by mass of an element in a compound from its formula and relative atomic masses. [AQA 4.3.2.2] • C3.4 Equations and Calculations — Use balanced equations to relate masses of reactants/products and calculate masses from supplied data; introduce amount of substance (HT). [AQA 4.3.2.1–4.3.2.2]	
11/01/27	Assessment	• Assessment 1 (C1, C2, C4,C5): assess Paper 1 content from C1, C2, C4 and C5; use results to target misconceptions.	Assessment 1 (C1, C2, C4,C5)
18/01/27	Assessment	• Assessment 1 (C1, C2, C4,C5) Feedback: assess Paper 1 content from C1, C2, C4 and C5; use results to target misconceptions.	Assessment 1 (C1, C2, C4,C5) Feedback
25/01/27		• C3.5 From Masses to Balanced Equations — HT: use moles, relative formula masses and balanced equations to calculate reacting masses and identify limiting reactants. [AQA 4.3.2.1–4.3.2.3] • C3.6 Uncertainty — Use measurement uncertainty and significant figures to evaluate quantitative results and explain sources of error in practical measurements. [AQA Working scientifically; 4.3]	
01/02/27		• C3.7 Percentage Yield — Separate Chemistry: calculate percentage yield and explain losses through incomplete reaction, reversible reactions and product recovery. [AQA 4.3.3.1 (chemistry only)] • C3.8 Atom Economy — Separate Chemistry: calculate atom economy and discuss industrial preference for reactions that minimise unwanted products. [AQA 4.3.3.2 (chemistry only)] • C3.9 Expressing Concentration — Calculate concentration in g/dm³ and convert between cm³ and dm³; HT concentration in mol/dm³. [AQA 4.3.4.1–4.3.4.2]	
08/02/27		• C3.10 Titration Required Prac — Required practical 2: perform accurate acid–alkali titration with pipette, burette and indicator; obtain concordant titres. [AQA 4.4.2.5; RP2 (chemistry only)] • C3.11 Titration Calculations — HT: use titration volumes, known concentration and balanced equations to calculate unknown concentration in mol/dm³ and g/dm³. [AQA 4.4.2.5; 4.3.4.2 (HT)]	
22/02/27		• C3.12 Volume of Gases — HT: use 24 dm³ per mole at room temperature and pressure to calculate gaseous reactant/product volumes from balanced equations. [AQA 4.3.5.1 (HT)] • C3.13 C3 Calculations Standard Task — Quantitative chemistry standard task: assess formula masses, equations, moles, yield, atom economy, concentration, titration and gas volumes. [AQA 4.3.1–4.3.5]	C3.13 C3 Calculations Standard Task C3.14 C3 Calculations Feedback

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		• C3.14 C3 Calculations Feedback — Quantitative chemistry feedback: correct units, conversions, mole ratios, significant figures and calculation methods. [AQA 4.3.1–4.3.5]	
01/03/27		• C6.1 Rates of Reaction - PRAC — Investigate rate using gas collection or mass loss; define mean rate as quantity of reactant used/product formed divided by time. [AQA 4.6.1.1–4.6.1.2] • C6.2 Limiting Reactants - link to mole calcs — Apply mole ratios to limiting reactants and distinguish amount produced from speed of reaction. [AQA 4.3.2.2–4.3.2.3] • P6 Seneca (Part 2 Due): independent revision/homework as scheduled in the teaching plan.	
08/03/27		• C6.3 Collision Theory and Surface Area — Explain collision theory and effects of surface area on collision frequency; interpret particle models. [AQA 4.6.1.2–4.6.1.3] • C6.4 Factors affecting Rate of Reaction — Explain effects of concentration, pressure, temperature and surface area on rates using collision theory and activation energy (HT). [AQA 4.6.1.2–4.6.1.3] • C6.5 Calculating Rate of Reaction — Calculate mean rates from mass/volume/time data; interpret tangents and gradients on rate graphs (HT). [AQA 4.6.1.1]	
15/03/27		• C6.6 Req Prac Effect of Concentration — Required practical 5: investigate effect of concentration on reaction rate using a suitable method, controlling variables and graphing results. [AQA 4.6.1.2; RP5] • C6.7 The effect of a Catalyst — Explain catalysts as increasing rate without being used up and reducing activation energy; interpret catalysed reaction profiles. [AQA 4.6.1.4]	
22/03/27		• C6.8 Reversible Reactions — Recognise reversible reactions and use reversible hydration/dehydration examples to explain forward and reverse reactions. [AQA 4.6.2.1] • C6.9 Dynamic Equilibrium — Explain dynamic equilibrium in a closed system as equal forward/reverse rates with constant concentrations. [AQA 4.6.2.3] • C6.10 Factors Effecting Equilibrium (Conc reactants/products) — HT: apply Le Chatelier's principle to concentration changes and predict shifts in equilibrium position. [AQA 4.6.3.1 (HT)]	
12/04/27	INSET (MON, TUES)	• C6.13 Rates of Reaction Feedback — Rates and equilibrium feedback: address misconceptions in graphs, collision theory, catalysts and dynamic equilibrium. [AQA 4.6.1–4.6.3] • C7.1 Hydrocarbons — Describe crude oil as a mixture of hydrocarbons and alkanes as saturated hydrocarbons; use C_nH_{2n+2} and first four alkane names. [AQA 4.7.1.1]	C6.13 Rates of Reaction Feedback
19/04/27		• C7.2 Fractional Distillation — Explain fractional distillation and relate hydrocarbon chain length to boiling point, viscosity, flammability and uses. [AQA 4.7.1.2–4.7.1.3] • 7.3 Combustion — Write balanced complete-combustion equations for hydrocarbons and explain products and hazards of incomplete combustion. [AQA 4.7.1.3; 4.9.3.1]	
26/04/27	INSET (MON)	• 7.4 Cracking and Alkenes — Explain catalytic and steam cracking, demand for short-chain fuels, alkene formation and bromine-water test. [AQA 4.7.1.4] • 7.5 Reactions of Alkenes — Separate Chemistry: identify $C=C$ functional group, draw displayed formulae and describe addition of hydrogen, water and halogens to alkenes. [AQA 4.7.2.1–4.7.2.2 (chemistry only)] • 7.6 Alcohols — Separate Chemistry: identify alcohol $-OH$ group; describe alcohol combustion, reactions with sodium and oxidising agents, solubility and fermentation of ethanol. [AQA 4.7.2.3 (chemistry only)]	
03/05/27		• 7.7 Carboxylic Acids — Separate Chemistry: identify $-COOH$; describe reactions of carboxylic acids with carbonates, water and alcohols; HT weak-acid explanation. [AQA 4.7.2.4 (chemistry only)]	

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		7.8 Addition Polymerisation — Separate Chemistry: explain addition polymerisation, identify alkene monomers and draw repeating units from given monomers. [AQA 4.7.3.1 (chemistry only)]	
10/05/27		No scheduled chemistry lesson in the supplied plan.	
18/05/27		No scheduled chemistry lesson in the supplied plan.	
24/05/27		7.9 Condensation Polymerisation — HT, Separate Chemistry: describe condensation polymerisation of bifunctional monomers with elimination of a small molecule; identify repeating units. [AQA 4.7.3.2 (chemistry only, HT)] 7.10 Amino Acids — HT, Separate Chemistry: explain amino acid functional groups and condensation polymerisation into polypeptides and proteins. [AQA 4.7.3.3 (chemistry only, HT)] 7.11 DNA — Separate Chemistry: describe DNA as two nucleotide polymer chains in a double helix and identify monomers of proteins, starch and cellulose. [AQA 4.7.3.4 (chemistry only)]	
07/06/27		REVISION LESSON	REVISION LESSON
14/06/27	Assessment in Hall?	- End of Year Assessment (Full Paper 1): full separate Chemistry Paper 1 (atomic structure, bonding, quantitative chemistry, chemical changes and energy changes). - Revision	End of Year Assessment (Full Paper 1) Revision
21/06/27	Assessment in Hall?	Revision	Revision
28/06/27		7.12 Hydrocarbons Standard Task — Organic chemistry standard task/feedback: assess alkanes, cracking, alkene addition, alcohols, carboxylic acids and polymerisation including HT content. [AQA 4.7.1–4.7.3] 7.12 Hydrocarbons Feedback — Organic chemistry standard task/feedback: assess alkanes, cracking, alkene addition, alcohols, carboxylic acids and polymerisation including HT content. [AQA 4.7.1–4.7.3]	7.12 Hydrocarbons Standard Task 7.12 Hydrocarbons Feedback
05/07/27	6th Form Taster?	Off timetable	Off timetable
12/07/27	sports day?	- Off timetable - Summer Revision Mat Homework	Off timetable Summer Revision Mat Homework