

## IGCSE CHEMISTRY CAMBRIDGE SPECIFICATION COVERAGE

CURRICULUM	TOPIC	SUB HEADING	KEYWORDS	SPECIFICATION STATEMENT
CORE	States of matter	States of matter	states of matter, solid, liquid, gas, melting, boiling, evaporating, freezing, condensing, diffusion, particle theory	Section 1: 1.1.1-3 Section 1: 1.2.1 Section 12: 12.1.3
CORE/SUPPLEMENT	Acids, bases and salts	Carboxylic acids	ethanoic acid, strong, weak, pH, ester	Section 14: 14.7
CORE/SUPPLEMENT	Acids, bases and salts	Acids and bases	acid, alkali, base, indicators, metal oxides, non-metal oxides, amphoteric oxides, hydrogen ion, neutralisation, pH	Section 7: 7.1.3, 6-8 Section 7: 7.2
CORE/SUPPLEMENT	Acids, bases and salts	Making salts	salt, hydroxide, carbonate, oxide, precipitate, purification techniques	Section 7: 7.3
CORE	Atoms, elements and compounds	Atoms, elements and compounds	atoms, elements, compounds, molecules, mixtures, formulae	Section 2: 2.1 Section 3: 3.1.1-3
CORE	Atoms, elements and compounds	Atomic structure	atomic structure, energy levels, proton number, nucleon number, electronic structure, valency electrons	Section 2: 2.2.1-4
CORE	Atoms, elements and compounds	Atomic structure and the periodic table	metals, non-metals, transition metals, groups, periods	Section 2: 2.2.4-6 Section 8: 8.1
CORE/SUPPLEMENT	Atoms, elements and compounds	Isotopes	isotopes, radioactive isotopes	Section 2: 2.3
CORE/SUPPLEMENT	Atoms, elements and compounds	Ionic and covalent bonding	ions, ionic, covalent, molecule, giant structure	Section 2: 2.4 Section 3: 3.1.6
CORE/SUPPLEMENT	Atoms, elements and compounds	Ionic compounds	ions, ionic, giant structure, lattice	Section 2: 2.4
CORE/SUPPLEMENT	Atoms, elements and compounds	Simple covalent molecules	covalent, molecule	Section 2: 2.5
CORE/SUPPLEMENT	Atoms, elements and compounds	Giant covalent structures	giant structure, covalent, diamond, graphite, fullerene	Section 2: 2.6
CORE/SUPPLEMENT	Atoms, elements and compounds	Metal structure and properties	properties of metals, alloys, delocalised electrons, conductor	Section 1: 1.1.5 Section 2: 2.7 Section 9: 9.1.1 Section 9:9.3.4-5
CORE/SUPPLEMENT	Stoichiometry	RAM	relative atomic mass, relative molecular mass	Section 3:3.1-3 Section 3: 3.2
SUPPLEMENT	Stoichiometry	Calculating formulae	empirical formulae	Section 3: 3.1.5 Section 3:3.3.7
CORE/SUPPLEMENT	Stoichiometry	Chemistry concepts	word and symbol equations, state symbols, balancing equations	Section 3:3.1.4, 7, 8
SUPPLEMENT	Stoichiometry	Moles	moles, Avogadro constant	Section 3: 3.3.1-3,5
SUPPLEMENT	Stoichiometry	Gas volumes	molar gas volume	Section 3: 3.3.4-5
SUPPLEMENT	Stoichiometry	Titrations	end-point, pH curve, indicator, solution concentrations, calculations	Section 3: 3.3.6 Section 12: 12.2
SUPPLEMENT	Stoichiometry	Yield in reactions	% yield	Section 3:3.3.8

CURRICULUM	TOPIC	SUB HEADING	KEYWORDS	SPECIFICATION STATEMENT
CORE/SUPPLEMENT	Electrochemistry	Electrolysis	anode, cathode, electrolyte, electroplating	Section 4: 4.1
SUPPLEMENT	Electrochemistry	Chemistry and uses of sodium chloride	electrolysis, aqueous sodium chloride, chlorine, sodium hydroxide	Section 4: 4.1.3(b)
SUPPLEMENT	Electrochemistry	Fuel cells	hydrogen fuel cell, electrochemical cell, half equations, redox	Section 4: 4.2
CORE/SUPPLEMENT	Chemical energetics	Exothermic and endothermic reactions	endothermic, exothermic, bond breaking and forming	Section 5: 5.1.1-2
CORE/SUPPLEMENT	Chemical energetics	Energy diagrams	activation energy, energy level diagram	Section 5: 5.1.3-6
SUPPLEMENT	Chemical energetics	Bond energies	bond making, bond breaking	Section 5: 5.1.7-8
CORE/SUPPLEMENT	Rates of reaction	How fast?	rate of reaction, methods for investigating rate of reaction	Section 6: 6.2.3-4, 8
CORE/SUPPLEMENT	Rates of reaction	Collision theory	activation energy, collision, kinetic theory, concentration, particle size	Section 6: 6.2.1, 5-6
CORE/SUPPLEMENT	Rates of reaction	Catalysts	activation energy, enzymes	Section 6: 6.2.2,7
CORE/SUPPLEMENT	Rates of reaction	Reversible reactions	reversible reaction, dynamic equilibrium, effects of changing conditions	Section 6: 6.3.1-4
SUPPLEMENT	Rates of reaction	Making ammonia (Haber process)	equilibrium, reversible	Section 6: 6.3.5-7, 11
SUPPLEMENT	Rates of reaction	The contact process	contact process, sulfur, sulfuric acid,	Section 6: 6.3.8-11
CORE	The Periodic Table	Group 1 - alkali metals	properties	Section 8: 8.2
CORE	The Periodic Table	Group 7 - halogens	properties, displacement reactions	Section 8: 8.3
CORE/SUPPLEMENT	The Periodic Table	Transition elements	properties	Section 8: 8.4
CORE	The Periodic Table	Group 0 - Noble gases	unreactive, inert, uses	Section 8: 8.5
CORE/SUPPLEMENT	Metals	Properties and uses of metals	aluminium, copper, steel, conductors, corrosion, alloys, recycling	Section 9:9.2 Section 9:9.3.1-3
CORE/SUPPLEMENT	Metals	Reactions of metals	rusting, galvanising, sacrificial protection, reactivity series, displacement reactions, thermal decomposition	Section 6: 6.4.2-5 Section 9: 9.1.2 Section 9:9.4 Section 9:9.5
CORE/SUPPLEMENT	Metals	Extracting metals	reactivity series, reduction, carbon, electrolysis, oxidation	Section 9: 9.6.1
CORE	Metals	Extracting iron	blast furnace, reduction, carbon	Section 9: 9.6.2,4
SUPPLEMENT	Metals	Extracting aluminium	electrolysis, aluminium oxide, cryolite	Section 9: 9.6.3,5
CORE	Chemistry of the environment	Purifying water	filtration, sedimentation, distillation, chlorination	Section 10: 10.1
CORE/SUPPLEMENT	Chemistry of the environment	The Earth's atmosphere	Composition of the atmosphere, carbon cycle, deforestation, acid rain, global warming	Section 10: 10.3.1-4,7 (5,6,9 covered in Biology)

CURRICULUM	TOPIC	SUB HEADING	KEYWORDS	SPECIFICATION STATEMENT
CORE/SUPPLEMENT	Organic chemistry	Crude oil	renewable, non-renewable, fossil fuels, hydrocarbons, alkanes, isomerism, substitution reactions	Section 11: 11.1.1.2(a),5,7,8 Section 11: 11.2.1(a), 2(part), 3(a) Section 11: 11.3.1-4 Section 11: 11.4
CORE	Organic chemistry	Fractional distillation of oil	fractions, viscosity, flammability, hydrocarbon	Section 11:11.3.4-7
CORE	Organic chemistry	Burning fuels	combustion, particulates, fuel, methane, catalytic converter	Section 10: 10.1.1 Section 10: 10.3.2(a)&(b), 8
CORE/SUPPLEMENT	Organic chemistry	Cracking hydrocarbons	alkanes, alkenes, addition reaction, bromine water, double bond, saturated, unsaturated, homologous series, polymerisation, polythene	Section 11: 11.1.2(b), 6 Section 11: 11.2.1(b), 2 (part), 3(b) Section 11:11.5
CORE	Organic chemistry	Alcohols	fuel, solvent, ethanol, combustion	Section 11: 11.1.2(c), 3,4,9 11.2.1(c), 2 (part), 3(c) Section 11: 11.6
CORE/SUPPLEMENT	Organic chemistry	Weak and strong acids	ethanoic acid, strong, weak, pH, ester	Section 7.1: 10-12 Section 11.1.1,2(d) Section 11: 11.2.1(d), 2, 3(d) Section 11: 11.7.1-2
SUPPLEMENT	Organic chemistry	Esters	ethyl ethanoate	Section 11: 11.2.4 Section 11: 11.7.3
SUPPLEMENT	Organic chemistry	Polymers	monomer, synthetic polymers, natural macromolecules, addition polymerisation, condensation polymerisation, biodegradable	Section 11:11.8
CORE/SUPPLEMENT	Experimental techniques and chemical analysis	Chromatography	purity, paper chromatography, chromatogram, Rf value, locating agents	Section 2: 2.2(a) Section 12: 12.3
CORE	Experimental techniques and chemical analysis	Tests for ions	flame test, precipitate	Section 12: 12.5





