

Curriculum	Topic	Sub-heading	Key Words	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	Titration	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
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: 9.1.1 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)
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, R _f 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