

Topic	Sub-heading	Keywords	Edexcel Combined science	Edexcel Chemistry
Atoms, elements and compounds	Atoms, elements and compounds	atoms, elements, compounds, molecules, symbols, formula	Formulae, equations and hazards	Formulae, equations and hazards
Atoms, elements and compounds	Chemical concepts	chemical reactions, balanced symbol equations, hazards	Formulae, equations and hazards	Formulae, equations and hazards
Atoms, elements and compounds	Atomic structure	atomic structure, atomic number, mass number, electronic structure, energy level, electron shell	Topic 1: Key concepts in chemistry	Topic 1: Key concepts in chemistry
Atoms, elements and compounds	Isotopes	isotopes, atom, mass number	Topic 1: Key concepts in chemistry	Topic 1: Key concepts in chemistry
Periodic table	Development of the periodic table	Newlands, Mendeleev, Dobereiner	Topic 1: The periodic table	Topic 1: The periodic table
Periodic table	Atomic structure and the periodic table	metals, non-metals, groups, periods	Topic 1: Key concepts in chemistry	Topic 1: Key concepts in chemistry
Periodic table	Group 1 - alkali metals	properties, trends, density, melting point, reaction with water	Topic 6: Groups in the periodic table	Topic 6: Groups in the periodic table
Periodic table	Group 7 - halogens	properties, trends, displacement reactions	Topic 6: Groups in the periodic table	Topic 6: Groups in the periodic table
Periodic table	Group 0 - Noble gases	properties, boiling point, trends, unreactivity	Topic 6: Groups in the periodic table	Topic 6: Groups in the periodic table
Periodic table	Transition elements	properties, transition metals, conductor, ions, catalysts		Topic 5: Separate chemistry 1
Structure and bonding	Ionic and covalent bonding	ions, ionic, covalent, molecule, giant structure	Topic 1: Key concepts in chemistry	Topic 1: Key concepts in chemistry
Structure and bonding	Metal structure and properties	delocalised electrons, conductor, giant structure	Topic 1: Key concepts in chemistry	Topic 1: Key concepts in chemistry
Structure and bonding	Ionic compounds	ions, ionic, giant structure, lattice	Topic 1: Key concepts in chemistry	Topic 1: Key concepts in chemistry
Structure and bonding	Simple covalent molecules	covalent, molecule	Topic 1: Key concepts in chemistry	Topic 1: Key concepts in chemistry
Structure and bonding	Giant covalent structures	giant structure, covalent, diamond, graphite, fullerene	Topic 1: Key concepts in chemistry	Topic 1: Key concepts in chemistry
Structure and bonding	Nanotechnology	nanotechnology, nanoparticles, carbon nanotubes		Topic 9: Separate chemistry 2
Quantitative chemistry	RAM	relative atomic mass, RAM	Topic 1: Key concepts in chemistry	Topic 1: Key concepts in chemistry
Quantitative chemistry	Calculating formulae	empirical formula	Topic 1: Key concepts in chemistry	Topic 1: Key concepts in chemistry
Quantitative chemistry	Moles	moles, molar mass	Topic 1: Key concepts in chemistry (HT)	Topic 1: Key concepts in chemistry (HT)
Quantitative chemistry	Gas volumes	molar volume		Topic 5: Separate chemistry 1 (HT)

Quantitative chemistry	Atom economy	atom economy		Topic 5: Separate chemistry 1
Quantitative chemistry	Yield in reactions	yield, percentage yield, theoretical yield, actual yield		Topic 5: Separate chemistry 1
Obtaining and using metals	Extracting metals	reactivity series, reduction, carbon, electrolysis, oxidation	Topic 4: Extracting metals and equilibria	Topic 4: Extracting metals and equilibria
Obtaining and using metals	Extracting aluminium	reactivity, electrolysis	Topic 4: Extracting metals and equilibria	Topic 4: Extracting metals and equilibria
Obtaining and using metals	Extecting copper	bioleaching, phytomining, displacement	Topic 4: Extracting metals and equilibria (HT)	Topic 4: Extracting metals and equilibria (HT)
Obtaining and using metals	Properties and uses of metals	conductors, alloys, smart materials, recycling		Topic 5: Separate chemistry 1
Obtaining and using metals	Reactions of metals	rusting, corrosion, galvanising, sacrificial protection, reactivity series, displacement reactions, thermal decomposition		Topic 5: Separate chemistry 1
Acids, bases and salts	Acids and bases	acid, alkali, base, hydrogen ion, neutralisation, pH	Topic 3: Chemical changes	Topic 3: Chemical changes
Acids, bases and salts	Making salts	salt, hydroxide, carbonate, oxide, precipitate	Topic 3: Chemical changes	Topic 3: Chemical changes
Acids, bases and salts	Weak and strong acids		Topic 3: Chemical changes (HT)	Topic 3: Chemical changes (HT) Topic 9 : Separate chemistry 2
Acids, bases and salts	Titrations	end-point, pH curve, indicator	Topic 3: Chemical changes	Topic 5: Separate chemistry 1
Electrolysis	Electrolysis	anode, cathode, electrolyte	Topic 3: Chemical changes	Topic 3: Chemical changes
Energy in reactions	Exothermic and endothermic reactions	endothermic, exothermic, reversible	Topic 7: Rates of reaction and energy changes	Topic 7: Rates of reaction and energy changes
Energy in reactions	Energy diagrams	activation energy, energy level diagram	Topic 7: Rates of reaction and energy changes	Topic 7: Rates of reaction and energy changes
Energy in reactions	Bond energy	bond making, bond breaking	Topic 7: Rates of reaction and energy changes (HT)	Topic 7: Rates of reaction and energy changes (HT)
Energy in reactions	Fuel cells	hydrogen fuel cell, electrochemical cell, half equations		Topic 5: Separate chemistry 1
Rates of reaction	How fast?	rate	Topic 7: Rates of reaction and energy changes	Topic 7: Rates of reaction and energy changes
Rates of reaction	Collision theory	activation energy, collision, kinetic theory, limiting factor	Topic 7: Rates of reaction and energy changes	Topic 7: Rates of reaction and energy changes
Rates of reaction	Catalysts	activation energy	Topic 7: Rates of reaction and energy changes	Topic 7: Rates of reaction and energy changes
Dynamic equilibrium	Reversible reactions	Reversible reaction, dynamic equilibrium	Topic 4: Extracting metals and equilibria	Topic 4: Extracting metals and equilibria

Dynamic equilibrium	Making ammonia (Haber process)	equilibrium, reversible	Topic 4: Extracting metals and equilibria	Topic 4: Extracting metals and equilibria
Dynamic equilibrium	The contact process	contact process, sulfur, sulfuric acid		
Organic chemistry	Crude oil	renewable, non-renewable, fossil fuels, hydrocarbons, alkanes	Topic 8: Fuels and earth science	Topic 8: Fuels and earth science
Organic chemistry	Fractional distillation of oil	fractions, viscosity, flammability, hydrocarbon	Topic 8: Fuels and earth science	Topic 8: Fuels and earth science
Organic chemistry	Burning fuels	combustion, particulates, fuel, methane, catalytic converter	Topic 8: Fuels and earth science	Topic 8: Fuels and earth science Topic 9 : Separate chemistry 2
Organic chemistry	Cracking hydrocarbons	alkanes, alkenes, addition reaction, bromine water, double bond, saturated, unsaturated, homologous series	Topic 8: Fuels and earth science	Topic 8: Fuels and earth science Topic 9: Separate chemistry 2
Organic chemistry	Polymers	monomer, double bond, bromine water, polymerisation, thermoset, thermo soft, biodegradable	Topic 1: Key concepts in chemistry	Topic 1: Key concepts in chemistry Topic 9: Separate chemistry 2
Organic chemistry	Alcohols	fuel, solvent, ethanol, combustion		Topic 9: Separate chemistry 2
Organic chemistry	Carboxylic acids	carboxylic acid, methanoic acid, ethanoic acid, propanoic acid, butanoic acid, weak acid		Topic 9: Separate chemistry 2
Organic chemistry	Esters	alcohol, perfume, flavouring		
Chemical analysis	Chromatography	chromatography, food additives, Rf value	Topic 2: States of matter and mixtures	Topic 2: States of matter and mixtures
Chemical analysis	Tests for ions	flame test, precipitate		Topic 9: Separate chemistry 2
Chemistry of the atmosphere	The atmosphere	oxygen, carbon cycle, carbon dioxide, deforestation, air, photosynthesis, fossil fuel	Topic 8: Fuels and earth science	Topic 8: Fuels and earth science
Chemistry of the atmosphere	Effects of human activities	acid rain, global warming, dimming, deforestation, greenhouse gases, fossil fuels	Topic 8: Fuels and earth science	Topic 8: Fuels and earth science
Using resources	Fertilisers and water pollution	fertilisers, eutrophication, ammonia, neutralisation, life cycle analysis	Topic 4: Extracting metals and equilibria	Topic 5: Separate chemistry 1
Using resources	Purifying water	water treatment, distillation	Topic 2: States of matter and mixtures	Topic 2: States of matter and mixtures