

TIER	TOPIC	SUB HEADING	KEYWORDS	WJEC UNIT 1	WJEC UNIT 2	WJEC UNIT 3
F/H	Acids, bases and salts	Acids and bases	acid, alkali, base, hydrogen ion, neutralisation, pH	Y		
F/H	Acids, bases and salts	Making salts	salt, hydroxide, carbonate, oxide, precipitate	Y		
F/H	Acids, bases and salts	Carboxylic acids	strong, weak, pH			Y
F/H	Alcohols and esters	Alcohols	fuel, solvent, ethanol, combustion			Y
F/H	Alcohols and esters	Esters	alcohol, perfume, flavouring			
F/H	Atoms, elements and compounds	Atoms, elements and compounds	atoms, elements, compounds, molecules	Y		
F/H	Atoms, elements and compounds	Atomic structure	atomic structure, energy levels, atomic number, mass number, electronic structure		Y	
F/H	Atoms, elements and compounds	Isotopes	isotopes, atom, mass number		Y	
F/H	Structure and bonding	Ionic and covalent bonding	ions, ionic, covalent, molecule, giant structure	Y	Y	
F/H	Structure and bonding	Metal structure and properties	delocalised electrons, conductor, giant structure			
F/H	Structure and bonding	Ionic compounds	ions, ionic, giant structure, lattice		Y	
F/H	Structure and bonding	Simple covalent molecules	covalent, molecule		Y	
F/H	Structure and bonding	Giant covalent structures	giant structure, covalent, diamond, graphite, fullerene		Y	
F/H	Building materials	Limestone	chalk, limestone, marble			Y
F/H	Building materials	Carbonates	thermal decomposition, lime water			Y
F/H	Building materials	Construction materials	limestone, cement, concrete			Y
F/H	Calculations in chemistry	RAM	relative atomic mass, RAM		Y	
H	Calculations in chemistry	Calculating formulae			Y	
H	Calculations in chemistry	Moles				Y
H	Calculations in chemistry	Gas volumes				
H	Calculations in chemistry	Atom economy				
F/H	Calculations in chemistry	Yield in reactions	% yield		Y	
F/H	Chemical reactions	Reversible reactions	Reversible reaction, dynamic equilibrium			Y
F/H	Chemical reactions	Making ammonia (Haber process)	equilibrium, reversible			Y
F/H	Earth and atmosphere	The atmosphere	oxygen, carbon cycle, carbon dioxide, deforestation, air, photosynthesis, fossil fuel	Y		
F/H	Earth and atmosphere	Effects of human activities	acid rain, global warming, dimming, deforestation, greenhouse gases, fossil fuels	Y		
F/H	Electrolysis	Electrolysis	anode, cathode, electrolyte	Y		
H	Electrolysis	Electrolysis calculations	half equation, coulomb	Y		
F/H	Electrolysis	Chemistry and uses of sodium chloride	electrolysis, salt			
F/H	Energy in reactions	Exothermic and endothermic reactions	endothermic, exothermic, reversible		Y	

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F/H	Energy in reactions	Calculating energy changes in reactions	joule			
F/H	Energy in reactions	Energy diagrams	activation energy, energy level diagram			
H	Energy in reactions	Bond energy	bond making, bond breaking		Y	
F/H	Food chemistry	Saturated and unsaturated oils	vegetable oil, saturated, unsaturated, hardening, margarine, hydrogenation			
F/H	Food chemistry	Emulsions	hydrophobic, hydrophilic, emulsifier			
F/H	Obtaining and using metals	Extracting metals	reactivity series, reduction, carbon, electrolysis, oxidation	Y		
F/H	Obtaining and using metals	Extracting iron	reactivity series, reduction, carbon	Y		
F/H	Obtaining and using metals	Extracting copper	electrolysis			
F/H	Obtaining and using metals	Extracting aluminium	reactivity, electrolysis	Y		
F/H	Obtaining and using metals	Properties and uses of metals	conductors, corrosion, alloys, smart materials, recycling	Y		
F/H	Crude oil and fuels	Crude oil	renewable, non-renewable, fossil fuels, hydrocarbons, alkanes	Y	Y	
F/H	Crude oil and fuels	Fractional distillation of oil	fractions, viscosity, flammability, hydrocarbon	Y	Y	
F/H	Crude oil and fuels	Burning fuels	combustion, particulates, fuel, methane, catalytic converter	Y		
F/H	Crude oil and fuels	Alternative fuels	biofuel, biodiesel, ethanol, renewable, fermentation			Y
F/H	Crude oil and fuels	Cracking hydrocarbons	alkanes, alkenes, addition reaction, bromine water, double bond, saturated, unsaturated, homologous series		Y	Y
F/H	Crude oil and fuels	Polymers	monomer, double bond, bromine water, polymerisation, thermoset, thermo soft, biodegradable	Y	Y	
F/H	Periodic table	Development of the periodic table	Newlands, Mendeleev, Dobereiner	Y		
F/H	Periodic table	Atomic structure and the periodic table	metals, non-metals, transition metals, groups, periods	Y		
F/H	Periodic table	Group 1 - alkali metals	properties		Y	
F/H	Periodic table	Group 7 - halogens	properties, displacement reactions		Y	
F/H	Periodic table	Transition elements	properties			
F/H	Periodic table	Group 0 - Noble gases	properties			
F/H	Qualitative analysis	Chromatography	chromatography, food additives, R <sub>f</sub> value		Y	
F/H	Qualitative analysis	Tests for ions	flame test, precipitate		Y	Y
F/H	Quantitative analysis	Titrations	end-point, pH curve, indicator			Y
F/H	Rates of reaction	How fast?	rate		Y	
F/H	Rates of reaction	Collision theory	activation energy, collision, kinetic theory, limiting factor		Y	
F/H	Rates of reaction	Catalysts	activation energy		Y	
F/H	Water	Hard and soft water	temporary hardness, permanent hardness, ion exchange, water softener		Y	
F/H	Water	Soap and detergent	hydrophobic, hydrophilic			
F/H	Water	Purifying water	filter, ion exchange, distillation		Y	