

KS4 Curriculum Overview (GCSE CHEMISTRY)

YEAR 10

Year 1 GCSE/BTEC Option Subjects

TERM 1 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
Chemical reactions and energy changes: C6 Electrolysis C7 Energy changes	Evaluate suitable methods of extraction of metals based on the reactivity series of metals. Bond energy calculations. Identification of everyday applications of endothermic and exothermic reactions.	Career links Chemical industry e.g., production of soaps and textiles, electroplater. British values Rule of Law: Students follow laboratory rules for the safety of all.
TERM 2 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
Chemical reactions and energy changes: C7 Energy changes (continued) Atoms, bonding and moles: C4 Chemical calculations	Using balanced equations, to calculate reacting masses. Evaluating the effect of limiting reactants on products. Expressing concentration. Carrying out a titration using a burette, volumetric pipette and pipette filler. Titration calculations. Calculating volumes of gases.	Career links Analytical chemist, chemical manufacturer. British values Rule of Law: Students follow laboratory rules for the safety of all.
TERM 3 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
Atoms, bonding and moles: C4 Chemical calculations (continued) Rates, equilibrium, and organic chemistry: C8 Rates and equilibrium (continued)	Practical skills: Investigating rates of reaction. Understanding and interpreting rate of reaction graphs. Explain links between collision theory and the effect of factors such as surface area, temperature, concentration, pressure,	Career links Analytical chemist, chemical manufacturer. British Values Rule of Law: Students follow laboratory rules for the safety of all.

	and the effect of a catalyst. Application of Le Chatelier's Principle in equilibrium mixtures.	
TERM 4 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
Rates, equilibrium, and organic chemistry: C8 Rates and equilibrium (continued)	Refer to TERM 3 TOPICS above.	Refer to TERM 3 TOPICS above.
TERM 5 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
Rates, equilibrium, and organic chemistry: C9 Crude oil and fuels C10 Organic reactions	Carry out fractional distillation. Testing the products of combustion. Testing of unsaturated hydrocarbons. Recognise the general formula of alkanes and alkenes. Drawing displayed structural formulae, e.g., of alkenes, alkanes, alcohols, carboxylic acids and esters. Writing balanced equations.	Career links Industrial chemist, petrochemical industry, perfumier. British Values Rule of Law: Students learn about the regulations concerning oil refining and reduction of air pollution. Mutual respect and tolerance: The opportunity to debate the importance of oil to society.
TERM 6 TOPIC/s	*Key Skills/Subject Links	*Career links & BV
Rates, equilibrium, and organic chemistry: C10 Organic reactions (continued)	Refer to TERM 5 TOPICS above.	Refer to TERM 5 TOPICS above.