



Chemistry: Curriculum Overview

Year 12

Term	Teacher 1			Teacher 2			Wider reading:
	Topic studied	What will I learn?	How will I be assessed?	Topic studied	What will I learn?	How will I be assessed?	
Year 12 Autumn	Atomic structure	Structure of the atom. Time of flight mass spectrometry. Electron configuration.	End of topic test	Amount of substance	Relative molecular mass. Mole calculations. Ideal Gas Equation, Empirical and Molecular Formula. Percentage yield Atom economy	End of topic test	Text book and revision guide throughout course. Web site: chemguide.co.uk
	Bonding	Bonding and physical properties. Shapes of simple molecules and ions. Electronegativity Intermolecular forces	End of topic test	Kinetics	Maxwell-Boltzmann curve. Rate of a reaction Collision theory	End of topic test	
	Organic Chemistry	How to name and different ways of representing organic molecules. Isomerism	End of topic test	Energetics	Enthalpy changes. Reaction Profiles. $q=mc\Delta T$ and ΔH bond enthalpies, enthalpies of combustion and formation	End of topic test	
Year 12 Spring	Organic Chemistry (cont)	Alkanes – fractional distillation, cracking, combustion and chlorination. Haloalkane - nucleophilic substitution, elimination and ozone depletion. Alkenes-structure, isomerism, bonding and reactivity, addition reactions and polymers.	End of topic test	Oxidation, Reduction and Redox	Definitions, writing half equations and combining to form full redox equations	End of topic test	
				Group 2	Trends of Group 2 metals Reactions of Group 2	End of topic test	
				Group 7	Trends and reactions of Group 7. Test for halogens.	End of topic test	
				Equilibria, Kc	Dynamic equilibrium Calculation Kc	End of topic test	
Year 12 Summer	Organic Chemistry (cont)	Alcohols – production, oxidation and elimination. Organic analysis – identification of functional groups by test-tube reactions, high resolution mass spectrometry and infrared spectroscopy. Link between absorption of infrared radiation and global warming.	End of topic test	Kp	Partial pressures, mole fractions	End of topic test	
				Maths skills	Use of standard forms, indices, ratios and units in chemistry Accurate drawing of graphs	End of year exam	
				Practical Skills	Recap of practical skills and experimental technique in making a standard solution, performing an acid-base titration, working out the Mr of an organic acid from a titration		