



Chemistry Curriculum Overview 2019-2020

YEAR 10

	Autumn Term	Spring Term	Summer Term	Rationale
Composites	Key concepts, calculations involving masses, electrolysis, Metals	Equilibrium, Chemical and fuel cells, Periodic table groups, Rates of reaction	Energy changes, Revision of key concepts & Mock exams	<p>Key concepts, which appear in both exams, are covered first in order to make sure all students have a firm foundation upon which to build a more complex understanding. Many of these key concepts are touched upon in year 9 where links are made to topics in order to support students in bridging the gap between KS3 and KS4.</p> <p>The Spring term focusses on new content being covered for the first time, introducing students to more challenging concepts than previously encountered.</p> <p>The summer term is spent developing previously met content in greater detail ensuring tier 3 language is being used effectively and with confidence. Time is spent preparing students for their mock exams at the end of the year, focusing on exam technique and breaking down exam questions.</p> <p>The summer term allows pupils the opportunity to revisit the vital key concepts once again, that can appear in both chemistry papers. This has been identified as a weakness in the exams and underpins all other topics studied, so the spaced retrieval of these concepts supports students in their recall and understanding.</p>
Key Components	Structure of the atom, Ionic and covalent bonding, masses and empirical formula, moles, electrolysis, reactivity, displacement	Factors effecting equilibrium, Alkali metals, Halogens, Nobel gases, transition metals, Types of reaction,	Catalysts, reaction profile, separating techniques, states of matter, acids and alkalis	
Tier 3 language	Proton, neutron, electron, isotope, nucleus, shells, Avogadro, reactivity, cation, anion, electrolyte, electrode	Dynamic equilibrium, yield, atom economy, collision, reactivity, electron shielding, exothermic, endothermic	Reactivity, reaction profiles, bond energy, neutralisation, titration, concentration, chromatography, distillation, base	
Assessment	Chemistry Paper 1 mock exam Weekly low stakes testing	Chemistry Paper 1 mock exam Weekly low stakes testing	Chemistry paper 1 mock exam Weekly low stakes testing	
The best that has been thought and said	JJ Thompson, Lorenzo Avogadro	Dmitri Mendeleev		

YEAR 11

Composites	Groups, Rates of reaction, Energy in reactions, Fuels and the earth, Hydrocarbon and polymers		Revision	<p>The Autumn term of year 11 continues to cover the remaining new content, whilst making links to previous topics as and when relevant.</p> <p>During the second half of the Spring term, revision begins with core practical's being revisited. At this point students have covered all new content and should be able to make more informed analyses and conclusions for each of the core practical's. They will be able to apply their skills to tasks involving the creating, analysis and evaluation of data in new scientific contexts. Walking talking mocks are also arranged in the spring term that focus on improving students' exam technique in manipulating and applying their knowledge.</p> <p>The summer term is a time to re-visit the content most likely to appear in the exams, all key words are in students' long term memory and their recall is supported by the deliberate practice planned into our revision plan.</p>
Key Components	Alkali metals, Halogens, noble gases, Rates of reaction, Fractional distillation, alkanes and alkenes, polymerisation	Photometry, Positive and negative ions, Composite materials, Nanoparticles	Preparation for GCSE examinations. Deliberate Practice & Retrieval Practice of key knowledge.	
Tier 3 language	Viscosity, fractions, evaporate, saturated, combustion, carboxylic acid, alcohol, exothermic, endothermic, reaction profiles, climate change, homologous series, isomers, bromine water	Nanoparticles, reinforcement, polymers, Variables, control, dependent, independent, precision, accuracy		
Assessment	Chemistry paper 1 mock exam Weekly low stakes testing	Chemistry Paper 2 mock exam Walking Talking Mocks	GCSE Exams	
The best that has been thought and said	Greta Thunberg David Attenborough			