SCIENCE - Chemistry

Key Stage	Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
KS3	7	**Lab Safety** ● How to use a Bunsen Burner **Apprentice Scientists - Scientific Skills** ● Variables ● Collecting data ● Analysis of data	**Atoms, Elements and Compounds** ● Solids, Liquids and gases ● Atoms and elements ● Compounds ● The Periodic Table	**Chemical Reactions** ● Thermal Decomposition ● Combustion ● Oxidation ● Acids and Alkalis ● Neutralisation	**The Earth's Atmosphere** ● The structure of the earth ● The water cycle ● The Carbon cycle ● Testing for gases ● Recycling		
	8	**Introductory lessons - scientific skills** ● Data collection - range and repeats ● Scientific communication ● Evidence and theories ● Risks and benefits **The Earth's Structure** ● Igneous rocks ● Sedimentary rock ● Metamorphic rock ● The rock cycle ● Fossil fuels		**Mixtures** ● Pure Substances ● Separating Mixtures ● Chromatography ● Dissolving		**Metals and Acids** ● Symbols Equations ● The Reactivity of metals ● The Extraction of metals ● Metals and acids ● Bases and acids ● Making a soluble salt	
	9	**Scientific skills** - ● Tables ● Graphs ● Calculating rates	**Exo or Endo** ● Reversible reactions ● Exothermic or endothermic ● Bond energy calculations	Materials ● Ceramics and Glasses ● Polymers ● Industrial Processes research	**GCSE begins** CH1 (Spec 4.1) Atomic structure and the periodic table		

	After each half term, students will have a short assessment.						
KS4	**10**	CH1 (Spec 4.1) Atomic structure and the periodic table CH2 (Spec 4.2) Bonding, Structure and the Properties of Matter	CH2 (Spec 4.2) Bonding, Structure and the Properties of Matter CH3 (Spec 4.3) Quantitative Chemistry	CH3 (Spec 4.3) Quantitative Chemistry CH4 (Spec 4.4) Chemical Changes	CH4 (Spec 4.4) Chemical Changes	CH5 (Spec 4.5) Energy Changes	**EXAMS** CH6 (Spec 4.6) The Rate and Extent of Chemical Change
	11	CH6 (Spec 4.6) The Rate and Extent of Chemical Change CH7 (Spec 4.7) Organic Chemistry	**EXAMS** CH7 (Spec 4.7) Organic Chemistry	CH8 (Spec 4.8) Chemical analysis CH9 (Spec 4.9) The Earth's Atmosphere CH10 (Spec 4.10) Using Our Resources	CH10 (Spec 4.10) Using Our Resources **REVISION**	**REVISION**	
	After each topic, students will have an assessment - ranging between 30-45 marks.						
KS5	**12**	Foundations in Chemistry - atomic structure, quantitative chemistry, electrons and bonding.	Foundations in Chemistry Periodic Table and Energy Core Organic Chemistry	Periodic Table and Energy Core Organic Chemistry	Periodic Table and Energy Core Organic Chemistry	Periodic Table and Energy Core Organic Chemistry	EXAMS Physical chemistry and transition elements Organic chemistry and analysis
	13	Physical chemistry and transition elements (Redox and TM complex ions) Organic chemistry and analysis (benzene and carbonyls)	EXAMS Physical chemistry and transition elements (Rates and Equilibrium) Organic chemistry and analysis (amines, amides and amino acids)	Physical chemistry and transition elements (acids and buffers, entropy) Organic chemistry and analysis (Synthesis and analysis)	EXAMS Content finalised - REVISION		
	After each topic, students will have an assessment. In some cases, a second assessment opportunity will be provided.						