Chemistry

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Curriculum Intent: To ensure students maintain and develop their curiosity and excitement about the natural world. To develop all students to be scientists by embedding a culture of confidence and mastery underpinned by scientific enquiry. To develop their ability to see connections between science subject areas and become aware of some of the big ideas for understanding the world. To provide a high challenge, high quality Science education for all our learners.

	Core Knowledge		Procedural Knowledge
	Y10	**Y11**	
Autumn Half Term 1	Chemical Changes	Chemical Analysis	**Students will:** Use scientific theories and explanations to develop hypotheses. Plan experiments or devise procedures to make observations, produce or characterise a substance, test hypotheses, check data or explore phenomena. Apply a knowledge of a range of techniques, instruments, apparatus, and materials to select those appropriate to the experiment. Carry out experiments appropriately having due regard for the correct manipulation of apparatus, the accuracy of measurements and health and safety considerations. Recognise when to apply a knowledge of sampling techniques to ensure any samples collected are representative. Make and record observations and measurements using a range of apparatus and methods. Evaluate methods and suggest possible improvements and further investigations.
Autumn Half Term 2	Chemical Calculations	The Earth's atmosphere The Earth's resources	
Spring Half Term 1	Electrolysis Energy Changes	Using our resources	
Spring Half Term 2	Rates and Equilibrium	Revision and exam preparation	
Summer Half Term 1	Rates and Equilibrium Crude oil and fuels	Revision and exam preparation	
Summer Half Term 2	Organic reactions Polymers		

Homework:

One homework will be set for every four hours of learning and take approximately 45 minutes to complete. Students will be provided with a homework booklet that contains a different activity to complete for each homework. Tasks will include revision activities, past exam questions, knowledge organisers and vocab builders.

Assessment:

Exam board: AQA

In Y10 there will be several Low Stake Assessments (LSAs) across the year. These will consist of approximately 15 marks of past exam questions.

There are also two assessment weeks. The November exam will cover Atomic Structure, The Periodic Table and Structure and Bonding (Kerboodle topics 1-3) and the exam in April will include Atoms, bonding, calculations, chemical reactions and energy (Kerboodle topics 1-7).

In Y11 there will be several Low Stake Assessments (LSAs) across the year. These will consist of approximately 15 marks of past exam questions.

There are also two assessment weeks. The October exam will cover Atoms, bonding, calculations, chemical reactions and energy (Kerboodle topics 1-7). The exam in February will include Rates, equilibrium, organic chemistry, analysis and the Earth's resources (Kerboodle topics 8-15).

Links to Personal Development:

Enabling students to recognise risks to their own wellbeing.

Social development: Practise using a range of social skills in different situations. Confidence, Resilience & Knowledge: Mentally healthy, physically healthy, active lifestyle, healthy relationships.

How is my knowledge developed further at Key Stage Five?

Knowledge and skills gained through the study of GCSE Chemistry are an excellent starting point for further study at KS5. The GCSE Chemistry course builds on the core concepts learnt at KS3, adding the level of detail and complexity needed to access KS5. A Level Chemistry explores the structure of atoms, trends and patterns in reactivity and organic reaction mechanisms. Practical skills introduced at GCSE are further developed at A-Level resulting in high levels of practical competence.