

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	Structure and Bonding Chemical Changes	Crude Oil and Fuels	Students will: Through GCSE Chemistry, students develop procedural knowledge by learning to plan and carry out scientific investigations, measure and record data accurately, analyse and evaluate evidence, and apply mathematical and problem-solving processes. These skills enable students to work scientifically, interpret data critically, and solve complex problems, forming the foundation for further study and scientific literacy.
Autumn Half Term 2	Chemical Calculations	Organic Reactions Polymers Chemical Analysis	
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 The Earth's Atmosphere	Revision and exam preparation	
Summer Half Term 2	The Earth's Resources		

Homework:

One homework will be set for every four hours of learning and take approximately 45 minutes to complete. Chemistry homework will be set using Educake, an online learning platform designed to

support students in developing their knowledge and understanding of science. Students will be set quizzes based on what they are learning in lessons or on topics that they need to revise for an assessment. The quizzes are automatically marked giving students instant feedback so they can see where they have done well and where they need to improve. This will reinforce what they have learnt in lessons, identify gaps in their knowledge early, build confidence through regular practice and prepare effectively for assessments and exams. Students can log into Educake using their school email and password and can complete their work on any internet-enabled device (computer, tablet, or smartphone).

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, Structure and Bonding and Chemical Changes (Kerboodle topics 1-3 and 5) 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:

The GCSE Chemistry curriculum contributes significantly to students' personal development by fostering critical thinking, resilience, and informed decision-making. Through the study of environmental issues, energy resources, and chemical industries, students develop moral and ethical awareness, alongside an understanding of global challenges. Practical work and risk assessment promote responsibility and safety awareness, while exposure to real-world applications supports careers education and broadens cultural capital.

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.