



The curriculum for this stage of students' education has been designed to ensure students understand how scientific methods and theories develop over time. Building on work done in Year 10, they will use representational, spatial, descriptive, computational and mathematical models to solve problems, make predictions and to develop scientific explanations and understanding. Students will appreciate the power and limitations of science and be able to consider ethical issues which may arise. They will be able to explain the technological applications of science; evaluate associated personal, social, economic and environmental implications; and make decisions based on the evaluation of evidence and arguments. Students will evaluate risks both in practical science and the wider societal context, while recognising the importance of peer review of results and of communicating results to a range of audiences.

<p>HALF TERM 1: USING RESOURCES</p> <p>STUDENTS MUST KNOW:</p> <ul style="list-style-type: none"> Natural and synthetic resources. Renewable and Finite resources. Sustainable development. <i>Alternative Methods of metal extraction.</i> Reusing and Recycling materials, Life cycle assessments, Potable water and wastewater treatment. <p>RP13- How to test and distil salt water</p> <p>HOW THIS WILL BE ASSESSED: A Progress Test halfway through the topic to address misconceptions, followed by an assessment completed at the end of each topic.</p>	<p>HALF TERM 2: REVISION</p> <p>STUDENTS MUST KNOW:</p> <ul style="list-style-type: none"> How to apply their knowledge of the content learnt to exam style questions. Covering Paper 1 Exam content to include Atoms, elements, compounds, mixtures and the Periodic Table. As well as Bonding, Structure and Properties and Quantitative Chemistry. As well as how required practical activities are examined. <p>HOW THIS WILL BE ASSESSED: Regular mini assessments and use of Past papers. As well as Mock Exams.</p>	<p>HALF TERM 3: REVISION</p> <p>STUDENTS MUST KNOW:</p> <ul style="list-style-type: none"> How to apply their knowledge of the content learnt to exam style questions. Covering Paper 1 Exam content to include Chemical Changes and Energy Changes. As well as how required practical activities are examined. <p>HOW THIS WILL BE ASSESSED: Regular mini assessments and use of Past papers. As well as Mock Exams.</p>
<p>HALF TERM 4: REVISION</p> <p>STUDENTS MUST KNOW:</p> <ul style="list-style-type: none"> How to apply their knowledge of the content learnt to exam style questions. Covering Paper 2 content to include Rates and extent of Chemical Change, Organic Chemistry and Chemical Analysis. As well as how required practical activities are examined. <p>HOW THIS WILL BE ASSESSED: External examinations in May/June.</p>	<p>HALF TERM 5: REVISION</p> <p>STUDENTS MUST KNOW:</p> <ul style="list-style-type: none"> How to apply their knowledge of the content learnt to exam style questions. Covering Paper 2 content to include Chemistry of the Atmosphere and Using Resources. How to improve areas of individual weakness. As well as how required practical activities are examined. <p>HOW THIS WILL BE ASSESSED: External examinations in May/June.</p>	<p>HALF TERM 6: REVISION</p> <p>STUDENTS MUST KNOW:</p> <ul style="list-style-type: none"> How to apply their knowledge of the content learnt to exam style questions. <p>HOW THIS WILL BE ASSESSED: External examinations in May/June.</p>

Embedding this knowledge can be supported at home by completion of homework, reviewing topics found on BBC Bitesize (AQA Chemistry), GCSE pod and reading scientific articles in newspapers, magazines, scientific journals and periodicals. Books of Interest: Periodic Tales: The Curious Lives of the Elements (Paperback) Hugh Aldersey-Williams ISBN-10: 0141041455

Bold and Italic – Denotes HIGHER Content.

N.B Combined Science Chemistry covers Required practicals 8-13.



The curriculum for this stage of students' education has been designed to build upon their prior knowledge from year 9 and 10 Physics. This course provides a worthwhile background for all students, whether or not they intend to go on to study Physics beyond GCSE. The course enables students to acquire a body of scientific knowledge and develop an understanding of the ideas and applications of Physics e.g. Energy, Forces and Motion, Waves and the Electromagnetic Spectrum. This is set in the context of knowing and understanding a body of scientific facts. Students acquire an understanding and experience of the methods used in science and of the application of experimental techniques in everyday life.

<p>HALF TERM 1: Electromagnetic Spectrum and Light</p> <p>STUDENTS MUST KNOW:</p> <ul style="list-style-type: none"> The Electromagnetic Spectrum. To understand the spectrum of electromagnetic waves and how they transfer energy. Light, IR, Microwave and Radio Waves. To understand the uses of light, infrared, microwave and radio waves in the world around us. Infrared Light Investigation. To investigate the emission and absorption of infrared radiation. Communications. To understand how a communication network uses radio, microwave and fibre optics to transfer information. Ultraviolet waves, X-Rays and Gamma Rays. To understand the properties and uses of ultraviolet waves, X-Rays and Gamma Rays. X-Rays in Medicine. To understand how are X-Rays used in medicine. <p>HOW THIS WILL BE ASSESSED: Students will be assessed by a progress test half way through the topic as well as an end of topic assessment.</p>	<p>HALF TERM 2: Lenses, Magnetism and Electromagnetism</p> <p>STUDENTS MUST KNOW:</p> <ul style="list-style-type: none"> Magnetic fields: Understand the shape of magnetic fields Electromagnetism and its uses: Understand how electromagnets are constructed and used The motor effect and using it: Explain how motors work <p>HOW THIS WILL BE ASSESSED: Students will be assessed by a progress test half way through the topic as well as an end of topic assessment.</p>	<p>HALF TERM 3:</p> <p>Consolidation, Revision and Past Papers</p>
<p>HALF TERM 4:</p> <p>Consolidation, Revision and Past Papers</p>	<p>HALF TERM 5:</p> <p>Consolidation, Revision and Past Papers</p>	

Embedding this knowledge can be supported at home by reviewing class notes, guided learning wider reading, exam practice questions, independent research and study, completing set independent study tasks, watching in scientific documentaries and understanding current issues in the scientific world. In addition, use the AQA website, BBC Bitesize and GCSEPOD in conjunction with suitable revision guides.