



Curriculum Map for Combined Science Chemistry Year 11

YEAR 11	Autumn 1	Autumn 2
Topics	Electrolysis & Atmosphere	Organic Chemistry
Substantive Knowledge – The Knowledge and Content Taught By The Teacher	<ul style="list-style-type: none">In this topic students will unpick the topic of Electrolysis and use practicals and exercise to predict and show what will happen when ionic compounds are split using this process.Students then unpick the topic of our ever-evolving Atmosphere and how it has changed so much in the millions of years since the conception of the planet.	<ul style="list-style-type: none">In this topic will unpick the wonderful substance of oil.The topic involves students learning about the refinement of oil and then the many applications of the various fractions.Finally, the topic reviews the impact of burning fuels.
Disciplinary Knowledge – The Knowledge Scientists Need So They Can Collect, Understand and Evaluate Scientific Evidence	<ul style="list-style-type: none">History and adaptation of the technology of electrolysis to help the ever-changing world.	<ul style="list-style-type: none">History of Combustion.Development of alternative fuels.
Skills	<ul style="list-style-type: none">Electrolysis Required PracticalPredicting the Products of ElectrolysisHalf Equations	<ul style="list-style-type: none">Balancing EquationsInterpreting Graphs and Spotting Patterns and Trends in HydrocarbonsDrawing and Writing Chemical Formula of Hydrocarbons
Links To Prior Learning	<ul style="list-style-type: none">Bonding in Year 10 Term 1Electricity in Physics Year 10Electricity in Physics Year 7	<ul style="list-style-type: none">Combustion in Years 7 and 8Fire Triangle at Primary SchoolBalancing Equations in Years 8 and 9Separating Mixtures in Years 8 and 9Impact of Fuels on Organisms in Years 7 & 8 and Year 11 Biology
Literacy/ Numeracy	<ul style="list-style-type: none">Numeracy- having already learnt the theory of balancing equations students will then apply to this scenario.Develop evaluation skills to critique the process of electrolysis.	<ul style="list-style-type: none">Numeracy - having already learnt the theory of setting up line graphs students will then learn how to analyse trends and patterns and be able to explain the data.Develop writing skills to consider all points of view when deciding a process is to be continued or scrapped and replaced.
Cross Curricular	<ul style="list-style-type: none">PSCHE- Dangers of Electricity	<ul style="list-style-type: none">Geography – Impacts of Human Activity on Wider Worlds

	<ul style="list-style-type: none"> • Geography - Impacts of Human Activity on Wider Worlds • Physics - Electricity 	<ul style="list-style-type: none"> • Biology - Impact of Fuels on Organisms
Assessment	<ul style="list-style-type: none"> • Electrolysis and Atmosphere End of Topic Assessment 	<ul style="list-style-type: none"> • Organic Chemistry End of Topic Assessment

YEAR 11	Spring 1 & 2 Summer 1	
Topics	Rates Whole Syllabus Revision & Review	
Substantive Knowledge – The Knowledge and Content Taught By The Teacher	<ul style="list-style-type: none"> • This is the final topic and is left till last. This topic involves the student considering and investigating the various ways a chemical reaction could be sped up or slowed down if required. • The practical heavy topic allows students to use a range of equipment to test hypothesis. 	
Disciplinary Knowledge – The Knowledge Scientists Need So They Can Collect, Understand and Evaluate Scientific Evidence	<ul style="list-style-type: none"> • History of Le Chatelier’s Principle 	
Skills	<ul style="list-style-type: none"> • Investigating Rates of Reaction • Calculating Rate • Practical Skills - Collect Results, Make Observations and Avoid Errors 	
Links To Prior Learning	<ul style="list-style-type: none"> • Bonding in Year 10 • Reactions Throughout Years 7 to 10 • Enzymes in Year Biology 	
Literacy/ Numeracy	<ul style="list-style-type: none"> • Students will discuss how to use a line of best fit to calculate the gradient of a curve by using tangents to calculate the rate of chemical reaction. • Correct use of Tier 3 keywords. 	
Cross Curricular	<ul style="list-style-type: none"> • Food and Nutrition - links with how to speed up and slow down cooking and how to prevent food going mouldy. • Biology - Enzymes in Year 10 	
Assessment	<ul style="list-style-type: none"> • Rates End of Topic Assessment 	