

Combined Science Long Term Programme of Study Year 11 2021-2022

Temperance Term

W/C	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	HALF TERM	
Area of Study	Revision Paper 1 Topics		Y11 Baseline Testing	B7- Ecology and C7- Organic chemistry					
Core Learning				<p>B7 Describe how humans can affect biodiversity and consider the actions that improve sustainability.</p> <ul style="list-style-type: none"> -Describe different levels of organisation in an ecosystem and the importance of interdependence -MS Extract and interpret data from graphs and tables -Explain how abiotic and biotic factors can affect a community. -Explain how organisms are adapted to survive. -Draw and interpret food chains. <p>C7-Explain the importance of carbon compounds as organic compounds, in terms of structure and properties.</p> <ul style="list-style-type: none"> -Recognise substances as alkanes given their formulae in these forms. -Recognise substances as alkenes given their formulae in these forms -Describe the process of fractional distillation 					
Opportunities for Challenge				B7 - Explain how organisms are adapted to live in their natural environment, given appropriate information. C7 - Determine name and therefore properties from chemical formula.					
Assessment				End of Topic Tests					

W/C	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	CHRISTMAS
Area of Study	B7- Ecology and C7- Organic chemistry				Mock Exams		

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<p>Core Learning</p>	<p>B7 Describe how humans can affect biodiversity and consider the actions that improve sustainability. -MS Understand the terms mean, mode and median -RP Measure the population size of a common species in a habitat and investigate the effect of a factor on the distribution of the species. -WS 1.2 Interpret and explain the processes in diagrams of the carbon cycle and the water cycle. -WS Explain how waste, deforestation and global warming have an impact on biodiversity.</p> <p>C7 Explain the importance of carbon compounds as organic compounds, in terms of structure and properties.</p> <p>-Describe the properties of hydrocarbons and identify trends</p> <p>-WS 1.2, 4.1 Investigate the properties of different hydrocarbons</p> <p>-Explain the process of cracking and why it is useful</p>	<p>Revision of Paper 2 Topics</p>		
<p>Opportunities for Challenge</p>	<p>B7 - Explain how organisms are adapted to live in their natural environment, given appropriate information. C7 - Determine name and therefore properties from chemical formula.</p>			
<p>Assessment</p>	<p>End of Topic Tests</p>			

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Justice Term

W/C	Week 14	Week 15	Week 16	Week 17	Week 18	Week 19	HALF TERM
Area of Study	C8 – Chemical Analysis and Revision of C9 – Chemistry of the Atmosphere and P5- Forces			C10 - Using Resources and P6- Waves			
Core Learning	<p>C8-Explain a variety of instrumental methods can be used to analyse substances</p> <p>-Use melting point and boiling point data to distinguish pure from impure substances.</p> <p>-Explain how paper chromatography separates mixtures and calculate retention factor</p> <p>-RP 6 Investigate how paper chromatography can be used to separate and tell the difference between coloured substances</p> <p>-Explain the tests for a variety of gases, including oxygen and chlorine</p> <p>C9-Describe and explain the factors which can affect the chemistry of the Earth's atmosphere</p> <p>P5 Identify and measure forces acting on objects</p> <p>Revision</p>			<p>C10-Explain ways to use the Earth's natural resources to manufacture useful products</p> <p>P6 Show how changes in velocity, frequency and wavelength, in transmission of sound waves from one medium to another, are inter-related</p> <p>Revision</p>			
Opportunities for Challenge	C8 – Use chromatography to calculate R _f values. Grade 7, 8, 9 challenge questions			Grade 7, 8, 9 challenge questions			
Assessment	End of Topic Tests			Self assessment and in-class tests			

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Courage Term

W/C	Week 26	Week 27	Week 28	Week 29	Week 30	Week 31	HALF TERM
Area of Study	C8 – Chemical Analysis and B6- Inheritance, variation and evolution	B7- Ecology and P7- Magnetism and Electromagnetism	P1- Energy B1- Cell Biology	C1- Atomic Structure and the Periodic Table and B2- Organisation	Science Application – Focus on exam questions and Science skills		
Core Learning	<p>C8-Explain a variety of instrumental methods can be used to analyse substances</p> <p>B6-Compare asexual and sexual reproduction, with relation to number of chromosomes and explain how favoured characteristics can be selectively bred.</p> <p style="text-align: center;">Revision</p>	<p>B7 Describe how humans can affect biodiversity and consider the actions that improve sustainability.</p> <p>P7-Explain how electromagnetic effects are used in a variety of devices</p> <p style="text-align: center;">Revision</p>	<p>P1 - There are changes in the way energy is stored when a system changes. Students should be able to describe all the changes involved in the way energy is stored when a system changes. B1- Students should be able to, explain how the structure of different types of cell relate to their function in a tissue, an organ or organ system, or the whole organism.</p> <p style="text-align: center;">Revision</p>	<p>C1 – Describe the development and structure of the atom and periodic table.</p> <p>B2 - Students should know the structure and functioning of the human digestive system and the respiratory system. Students should be able to describe the relationship between health and disease and the interactions between different types of disease.</p> <p style="text-align: center;">Revision</p>			
Opportunities for Challenge	Grade 7, 8, 9 challenge questions	Grade 7, 8, 9 challenge questions	Grade 7, 8, 9 challenge questions	Grade 7, 8, 9 challenge questions			
Assessment	Self assessment and in-class tests	Self assessment and in-class tests	Self assessment and in-class tests	Self assessment and in-class tests	GCSE Exams		



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W/C	Week 32	Week 33	Week 34	Week 35	Week 36	Week 37	SUMMER
Area of Study							
Core Learning							
Opportunities for Challenge							
Assessment	GCSE Exams						