



## Long Term Plan Science Year 11

GCSE Focus	Topic	Week	Learning Outcomes
Practical Skills	How Science Works	1-3	<ul style="list-style-type: none"> <li>• Following a written method</li> <li>• Recording and Analysing Results</li> <li>• Plotting Graphs</li> <li>• Drawing Conclusions</li> </ul>
P2: Required Practical - IV Curves	Required Practical - IV Curves	4	<ul style="list-style-type: none"> <li>• Describe how current and potential difference are measured in electrical circuits.</li> <li>• Explain how the shape of an IV curve relates to the resistance of a component.</li> <li>• Analyse and interpret IV curves for different electrical components.</li> </ul>
C7: Alkanes and Alkenes	Alkanes and Alkenes	5	<ul style="list-style-type: none"> <li>• Describe the structure and properties of alkanes and alkenes.</li> <li>• Explain how alkenes react and how they are used in polymerisation.</li> <li>• Compare the reactivity of alkanes and alkenes using chemical equations.</li> </ul>
B6: Evolution	Evolution	6	<ul style="list-style-type: none"> <li>• Describe how evolution occurs by natural selection.</li> <li>• Explain how evidence such as fossils and DNA supports the theory of evolution.</li> <li>• Evaluate the impact of modern genetics on our understanding of evolution.</li> </ul>
P5: Distance - Time and Velocity Time	Distance - Time and Velocity Time	7	<ul style="list-style-type: none"> <li>• Describe how distance–time and velocity–time graphs represent motion.</li> <li>• Explain how acceleration is calculated and represented graphically.</li> <li>• Interpret and analyse motion graphs for different scenarios.</li> </ul>
C9: Greenhouse Gasses	Greenhouse Gasses	8	<ul style="list-style-type: none"> <li>• Describe the greenhouse effect and its role in maintaining Earth's temperature.</li> <li>• Explain how human activities influence greenhouse gas levels.</li> <li>• Evaluate strategies to reduce the impact of climate change.</li> </ul>
<b>Review: The majority of Y11 are completing all work and exam questions. Y11 are currently on schedule.</b>			
B7: Competition	Competition	9	<ul style="list-style-type: none"> <li>• Describe how organisms compete for resources in ecosystems.</li> <li>• Explain how competition affects population size and distribution.</li> <li>• Analyse data on competition and its impact on biodiversity.</li> </ul>
P6: Longitudinal and Transverse Waves	Longitudinal and Transverse Waves	10	<ul style="list-style-type: none"> <li>• Describe the differences between longitudinal and transverse waves.</li> <li>• Explain how waves transfer energy without transferring matter.</li> <li>• Use diagrams and examples to compare the properties of different wave types.</li> </ul>
C10: Potable Water	Potable Water	11	<ul style="list-style-type: none"> <li>• Describe the processes used to produce potable water from different sources.</li> </ul>

			<ul style="list-style-type: none"> <li>• Explain how distillation and reverse osmosis can be used to obtain pure water.</li> <li>• Evaluate the sustainability and costs of water purification methods.</li> </ul>
B7: Biotic and Abiotic Factors	Biotic and Abiotic Factors	12	<ul style="list-style-type: none"> <li>• Describe biotic and abiotic factors and how they influence ecosystems.</li> <li>• Explain how changes in these factors can affect the distribution of organisms.</li> <li>• Interpret data showing the impact of environmental changes on communities.</li> </ul>
P6: EM Waves	EM Waves	13	<ul style="list-style-type: none"> <li>• Describe the different types of electromagnetic waves and their properties.</li> <li>• Explain how wavelength and frequency are related to energy and applications.</li> <li>• Evaluate the uses and hazards of electromagnetic radiation.</li> </ul>
C10: Recycling	Recycling	14	<ul style="list-style-type: none"> <li>• Explain the importance of reducing, reusing, and recycling materials.</li> <li>• Describe how recycling helps conserve resources and reduce environmental impact.</li> <li>• Evaluate the economic and environmental implications of recycling processes.</li> </ul>
B7: Adaptations	Adaptations	15	<ul style="list-style-type: none"> <li>• Describe structural, behavioural, and functional adaptations in organisms.</li> <li>• Explain how adaptations increase the chances of survival and reproduction.</li> <li>• Analyse examples of adaptations in different environments.</li> </ul>
P7: Magnetism	Magnetism	16	<ul style="list-style-type: none"> <li>• Describe the properties of magnets and magnetic fields.</li> <li>• Explain how magnetic field lines show strength and direction.</li> <li>• Investigate the interaction between magnets and magnetic materials.</li> </ul>
Paper 1 Exam Prep	Paper 1 Exam Prep	17	<ul style="list-style-type: none"> <li>• Review key concepts across biology, chemistry, and physics.</li> <li>• Apply knowledge to unfamiliar contexts and exam-style questions.</li> <li>• Evaluate answers to improve exam technique and scientific explanations.</li> </ul>
B7: Deforestation	Deforestation	18	<ul style="list-style-type: none"> <li>• Describe the causes and consequences of deforestation.</li> <li>• Explain how deforestation affects biodiversity and the carbon cycle.</li> <li>• Evaluate strategies to reduce deforestation and its impacts.</li> </ul>
P7: Electromagnetism	Electromagnetism	19	<ul style="list-style-type: none"> <li>• Describe how an electromagnet is made and how its strength can be increased.</li> <li>• Explain the factors that affect the force on a current-carrying conductor.</li> <li>• Apply the motor effect and Fleming's left-hand rule to real-world examples.</li> </ul>
B7: Biodiversity	Biodiversity	20	<ul style="list-style-type: none"> <li>• Define biodiversity and explain its importance for ecosystems.</li> <li>• Describe how human activities are reducing biodiversity.</li> </ul>

			<ul style="list-style-type: none"> <li>• Evaluate strategies for maintaining and protecting biodiversity.</li> </ul>
Paper 1 Exam Prep	Paper 1 Exam Prep	21-25	<ul style="list-style-type: none"> <li>• Review key concepts across biology, chemistry, and physics.</li> <li>• Apply knowledge to unfamiliar contexts and exam-style questions.</li> <li>• Evaluate answers to improve exam technique and scientific explanations.</li> </ul>
Paper 2 Exam Prep	Paper 2 Exam Prep	26-28	<ul style="list-style-type: none"> <li>• Review key concepts across biology, chemistry, and physics.</li> <li>• Apply knowledge to unfamiliar contexts and exam-style questions.</li> <li>• Evaluate answers to improve exam technique and scientific explanations.</li> </ul>