

# Year 10 Long Term Scheme of Learning 2024-25

## Subject: Combined Science – Higher Tier

Date (w/b)	Exams	Biology	Chemistry	Physics (2024 / 2025)
02/09/2024		<b>B4 Bioenergetics</b> <ul style="list-style-type: none"> <li>B4.2 Aerobic Respiration</li> <li>B4.2 Anaerobic Respiration</li> <li>B4.2 Effects of exercise</li> <li>B4.2 Metabolism</li> </ul> B1 - Cells <ul style="list-style-type: none"> <li><b>Required Practical 2 - Osmosis</b></li> </ul> <b>B2 Organisation</b> <ul style="list-style-type: none"> <li>B2.3 Plant organs and tissues</li> <li>B2.3 Plant transport</li> <li>B1.3 Active Transport</li> </ul> <b>B4 Photosynthesis</b> <ul style="list-style-type: none"> <li>B4.1 Photosynthesis</li> <li>B4.1 Rate of Photosynthesis</li> <li><b>B4.1 Required Practical 5 – Effect of Light on Photosynthesis</b></li> </ul>	<b>C2 Structure, Bonding, &amp; the Properties of Matter</b> <b>Key ideas:</b> <ul style="list-style-type: none"> <li>States of matter</li> <li>Chemical bond – Ionic, covalent and metallic</li> <li>Properties of ionic compounds</li> <li>Properties of small molecules</li> </ul>	<b>P4 – Electric Circuits</b> <ul style="list-style-type: none"> <li>P4.4 – Component characteristics</li> <li><b>P4.4 – Required Practical</b></li> <li>P4.5 – Series circuits</li> <li>P4.6 – Parallel circuits</li> <li><b>P2.4 – Required Practical (SHC)</b></li> </ul> <b>P5 – Electricity in the Home</b> <ul style="list-style-type: none"> <li>P5.1 – Alternating current</li> <li>P5.2 – Cables &amp; plugs</li> <li>P5.3 – Electrical Power &amp; P.D</li> <li>P5.4 – Electrical Current &amp; Energy transfer</li> <li>P5.5 – Appliances &amp; Efficiency</li> </ul>
09/09/2024				
16/09/2024				
23/09/2024				
30/09/2024				
07/10/2024				
14/10/2024				
21/10/2024				
04/11/2024		<b>B4 Photosynthesis</b> <ul style="list-style-type: none"> <li>B4.1 Photosynthesis</li> <li>B4.1 Rate of Photosynthesis</li> <li><b>B4.1 Required Practical 5 – Effect of Light on Photosynthesis</b></li> <li>B4.1 Limiting factors</li> <li>B4.1 Use of Glucose</li> </ul> <b>B2 Organisation</b> <ul style="list-style-type: none"> <li>B2.2 Non-communicable disease</li> <li>B2.2 Coronary Heart Disease +treatment</li> <li>B2.2 Cancer</li> </ul>	<b>C2 Structure, Bonding, &amp; the Properties of Matter</b> <b>Key ideas:</b> <ul style="list-style-type: none"> <li>Properties of giant covalent compounds eg diamond &amp; graphite</li> <li>Properties of metals and alloys</li> </ul> <b>C4 Chemical Reactions – reactions of acids</b> <ul style="list-style-type: none"> <li>pH and neutralisation reactions.</li> <li><b>Required Practical 8 – Making Soluble Salts</b></li> </ul> <b>C4'Chemical Reactions' – electrolysis</b> <b>Key ideas:</b>	<b>P6 – Molecules &amp; Matter</b> <ul style="list-style-type: none"> <li>P6.1 – Density</li> <li><b>P6.1 – Required practical</b></li> <li>P6.2 – States of matter</li> <li>P6.3 – Changes of state</li> <li>P6.4 - Internal energy</li> <li>P6.5 – Specific latent heat</li> <li>P6.6 – Gas pressure &amp; temperature</li> </ul>
11/11/2024				
18/11/2024				
25/11/2024				
02/12/2024				
09/12/2024				
16/12/2024				

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		<ul style="list-style-type: none"> <li>Required Practical Activity 4: pH and Amylase</li> <li>Required Practical Activity 4: pH and Amylase</li> </ul>	<ul style="list-style-type: none"> <li>Ionic compounds can be split into elements when molten or in solution using electricity</li> <li>Aluminium extraction using electrolysis</li> </ul>	
06/01/2025		<b>Assessment Window 1 Revision</b>	<u>Chemistry Assessment</u>	<b>P7 – Radioactivity</b>
13/01/2025		<b>B3 Infection and response</b> <ul style="list-style-type: none"> <li>(B1.1) Bacterial cells</li> <li>B3.1 Bacteria and Viral diseases</li> <li>B3.1 Fungal and Protista diseases</li> </ul>	<b>C4 'Chemical Reactions' – electrolysis</b> <b>Key ideas:</b> <b>Required Practical 9 – 'Electrolysis of aqueous solutions'</b>  <b>C5 'Energy Changes'</b> <b>Key ideas:</b> <ul style="list-style-type: none"> <li>Endothermic &amp; exothermic reactions</li> </ul> <b>Required Practical – 10 'Temperature changes'</b>	<ul style="list-style-type: none"> <li>P7.1 – Atoms &amp; radiation</li> <li>P7.2 – Discovery of the nucleus</li> <li>P7.3 – Changes in the nucleus</li> <li>P7.4 – Alpha, Beta, Gamma</li> <li>P7.5 – Activity &amp; Half-life</li> </ul> <b>Assessment Point 1 – P1 – P6.</b>
20/01/2025				
27/01/2025				
03/02/2025				
10/02/2025				
24/02/2025		<b>B3 Infection and response</b> <ul style="list-style-type: none"> <li>B3.1 Human defence systems</li> <li>B3.1 Vaccination</li> <li>B3.1 Antibiotics, Painkillers</li> <li>B3.1 Discovery and development of drugs</li> </ul>	<b>C5 'Energy Changes'</b> <b>Key ideas:</b> <ul style="list-style-type: none"> <li>Reaction profiles &amp; bond energy</li> </ul> <b>C3 'Quantitative Chemistry'</b> <b>Key ideas:</b> <ul style="list-style-type: none"> <li>Balancing equations</li> <li>Relative formula mass</li> <li>Amount of substance – moles</li> </ul>	<b>P8 – Forces in balance</b> <ul style="list-style-type: none"> <li>P8.1 – Vectors &amp; Scalars</li> <li>P8.2 – Force between objects</li> <li>P8.3 – Resultant forces</li> <li>P8.6 – Centre of mass</li> <li>P8.8 – Parallelogram of forces</li> <li>P8.9 – Resolution of forces</li> </ul>
03/03/2025				
10/03/2025				
17/03/2025				
24/03/2025				
31/03/2025				
21/04/2025		<b>B5 Homeostasis and Response</b> <ul style="list-style-type: none"> <li>B5.2 Nervous system</li> <li>B5.1 + B5.3 Human endocrine system</li> <li>B5.3 Control of blood glucose concentration</li> <li>B5.3 Hormones in human reproduction</li> </ul>	<b>C3 'Quantitative Chemistry'</b> <b>Key ideas:</b> <ul style="list-style-type: none"> <li>Amount of substance – moles</li> <li>Concentration of solutions</li> </ul> <b>C6 'Rate &amp; Extent of Chemical Reactions' – rate of reaction</b> <b>Key ideas:</b> <ul style="list-style-type: none"> <li>Measuring rate of reaction methods</li> <li>Limiting reactants</li> </ul> Factors affecting rates	<b>P9 – Motion</b> <ul style="list-style-type: none"> <li>P9.1 – Distance – time graphs</li> <li>P9.2 – Velocity &amp; acceleration</li> <li>P9.3 – Velocity – time graphs</li> <li>P9.4 – Analysing motion graphs</li> </ul>
28/04/2025				
05/05/2025				
12/02/05				
19/05/2025				

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02/06/2025		<p><b>Assessment Window 2 Revision</b></p> <p><b>B5 Homeostasis and Response</b></p> <ul style="list-style-type: none"> <li>B5.3 Contraception</li> <li>B5.3 Use of hormones to treat infertility (H tier)</li> <li>B5.5 Negative Feedback (H tier)</li> </ul> <p><b>B7 Ecology</b></p> <ul style="list-style-type: none"> <li>B7.2 Sampling</li> <li><b>B7.2 Required Practical 7 – Sampling populations</b></li> </ul>	<p><b>End of Year Exams</b></p> <p><b>C6 'Rate &amp; Extent of Chemical Reactions' – rate of reaction</b></p> <p><b>Key ideas:</b></p> <ul style="list-style-type: none"> <li><b>Required Practical 11a – Disappearing Cross</b></li> <li><b>Required Practical 11b – Measuring a gas volume</b></li> <li>Graphs &amp; tangents</li> <li>Collision theory &amp; catalysts</li> </ul>	<p><b>Assessment Point 2:</b></p> <ul style="list-style-type: none"> <li><b>GCSE Physics Paper 1 (P1 – P7)</b></li> </ul>
09/06/2025				
16/06/2025				
23/06/2025				
30/06/2025				
07/07/2025				
14/07/2025				