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|--|---|--|---------------------|--|---|------------------------------------|---|--|----------------------------|---|---------------------|-------------------------|--------------------------------|---|--|-------------------|
| <p><b>Science</b><br/><b>Year 11</b></p> | <p><b>Curriculum intent:</b> The Science curriculum across key stage 4 enables students to further develop their scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. It enables them to develop their understanding of the nature, processes and methods of science that help them to answer scientific questions about the world around them. This then equips them with the scientific skills required to understand the uses and implications of science today and in the future. Students studying separated sciences cover more in depth content of the same curriculum areas.</p> |  |                     |  |   |                                    |   |  |                            |   |                     |                         |                                |   |  |                   |
| <p><b>Topic</b></p>                      | <p><b>1</b></p>   |  |                     | <p><b>2</b></p>  |   |                                    | <p><b>3</b></p>   |  |                            | <p><b>4</b></p>   |                     |                         |                                |   |  |                   |
| <p><b>Interleaving</b></p>               | <p>Key knowledge from previously studied topics</p>   |  |                     | <p>Key knowledge from previously studied topics</p>  |   |                                    | <p>Key knowledge from previously studied topics</p>   |  |                            | <p>Key knowledge from previously studied topics</p>   |                     |                         |                                |   |  |                   |
| <p><b>Knowledge</b></p>                  | <p>Cells and Organisation</p>   | <p>Structure, bonding and the periodic table</p> |                     | <p>Energy and Electricity</p>  | <p>Bioenergetics Infection and response</p> | <p>Chemical and energy changes</p> |   | <p>Particle model and atomic structure</p> | <p>Homeostasis</p>         | <p>Rates, organic and analytical chemistry</p>  |                     | <p>Forces and Waves</p> | <p>Inheritance and Ecology</p> | <p>Chemistry of the atmosphere and Earths resources</p> | <p>Magnets and Space (triple only)</p> |                   |
| <p><b>Understanding</b></p>              | <p>Apply knowledge in a range of different contexts.</p> <p>Opportunities to include:</p> <p><i>Studying structure and functions of the systems of the body. Explore links between atomic structure, the Periodic table and bonding. Identifying energy stores, describing and calculating energy transfers and calculating electrical flow</i></p>   |  |                     | <p>Apply knowledge in a range of different contexts.</p> <p>Opportunities to include:</p> <p><i>Evaluate drug trials and explore metabolism. Evaluate the uses of exothermic and endothermic reactions. Explain specific heat capacity and specific latent heat.</i></p> |   |                                    | <p>Apply knowledge in a range of different contexts.</p> <p>Opportunities to include:</p> <p><i>Studying the structure and functions of the systems within the human body. Analyse the speed of reactions, how crude oil is separated and how to analyse chromatograms.</i></p> |  |                            | <p>Apply knowledge in a range of different contexts.</p> <p>Opportunities to include:</p> <p><i>Studying habitats and ecosystems and the impact of human behaviour. Analyse that lifecycle of everyday products. Describing the parts of a motor and how they work.</i></p> |                     |                         |                                |   |  |                   |
| <p><b>Skills</b></p>                     | <p>Scientific Thinking</p>  | <p>Experimental</p>                              | <p>Analysis and</p> | <p>Scientific</p>  | <p>Scientific Thinking</p>                  | <p>Experimental</p>                | <p>Analysis and</p>   | <p>Scientific</p>                          | <p>Scientific Thinking</p> | <p>Experimental</p>   | <p>Analysis and</p> | <p>Scientific</p>       | <p>Scientific Thinking</p>     | <p>Experimental</p>                                     | <p>Analysis and</p>                    | <p>Scientific</p> |
| <p><b>Assessment</b></p>                 | <p>In class assessments for Biology, Chemistry and Physics</p>  |  |                     | <p>November mock papers in Biology Chemistry and Physics</p>   |   |                                    | <p>In class assessments for Biology, Chemistry and Physics</p>  |  |                            | <p>March mock papers in Biology Chemistry and Physics</p>   |                     |                         |                                |   |  |                   |