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|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|
| <b>Chemistry<br/>Year 10</b>                | <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. |  |  |                                                                                                                                                                                                                                                                        |  |  |                                                                                                                                                                                                                                                                                                                                    |  |  |  |  |  |
| <b>Term</b>                                 | <b>1</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  | <b>2</b>                                                                                                                                                                                                                                                               |  |  | <b>3</b>                                                                                                                                                                                                                                                                                                                           |  |  |  |  |  |
| <b>Interleaving</b>                         | Key knowledge from previously studied topics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  | Key knowledge from previously studied topics                                                                                                                                                                                                                           |  |  | Key knowledge from previously studied topics                                                                                                                                                                                                                                                                                       |  |  |  |  |  |
| <b>Knowledge<br/>Separate Chemistry</b>     | Bonding and Structure, Properties of Matter<br><br>Quantitative Chemistry<br><br>Chemical Changes 1                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  | Chemical Changes 2<br><br>Energy Changes                                                                                                                                                                                                                               |  |  | Rate and Extent of Chemical Change                                                                                                                                                                                                                                                                                                 |  |  |  |  |  |
| <b>Understanding<br/>Separate Chemistry</b> | Apply Knowledge in a range of different contexts opportunities to include:<br>Explaining how fractional distillation can be used to separate different hydrocarbons<br>Analysing evidence that links the greenhouse effect to global warming<br>Investigating the use of a range of exothermic and endothermic chemical reactions                                                                                                                                                                                                                   |  |  | Apply Knowledge in a range of different contexts opportunities to include:<br>Investigating the relationship between exothermic and endothermic reactions and bond energy<br>Investigating how the rate of a variety of chemical reactions can be changed and measured |  |  | Apply Knowledge in a range of different contexts opportunities to include:<br>Examining the wide range of ways the reactivity series enables us to extract metals from their ores; methods include displacement, reduction and electrolysis<br>Investigating how the voltage produced by a cell is dependent on the type of metal. |  |  |  |  |  |
| <b>Knowledge<br/>Combined Chemistry</b>     | Bonding and Structure, Properties of Matter<br><br>Quantitative Chemistry<br><br>Chemistry of the Atmosphere                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  | Chemical Changes 2<br><br>Energy Changes                                                                                                                                                                                                                               |  |  | Rate and Extent of Chemical Change                                                                                                                                                                                                                                                                                                 |  |  |  |  |  |
| <b>Understanding<br/>Combined Chemistry</b> | Apply Knowledge in a range of different contexts opportunities to include:<br>Explaining how fractional distillation can be used to separate different hydrocarbons<br>Analysing evidence that links the greenhouse effect to global warming                                                                                                                                                                                                                                                                                                        |  |  | Apply Knowledge in a range of different contexts opportunities to include:<br>Investigating the use of a range of exothermic and endothermic chemical reactions<br>Investigating how the rate of a variety of chemical reactions can be changed and measured           |  |  | Apply Knowledge in a range of different contexts opportunities to include:<br>Investigating how the rate of a variety of chemical reactions can be changed and measured                                                                                                                                                            |  |  |  |  |  |
| <b>Skills</b>                               | <div>Scientific thinking</div> <div>Experimental skills</div> <div>Analysis and evaluation</div> <div>Scientific vocabulary</div>                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  | <div>Scientific thinking</div> <div>Experimental skills</div> <div>Analysis and evaluation</div> <div>Scientific vocabulary</div>                                                                                                                                      |  |  | <div>Scientific thinking</div> <div>Experimental skills</div> <div>Analysis and evaluation</div> <div>Scientific vocabulary</div>                                                                                                                                                                                                  |  |  |  |  |  |
| <b>Assessment</b>                           | End of topic Tests                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  | End of topic Tests                                                                                                                                                                                                                                                     |  |  | End of topic Tests                                                                                                                                                                                                                                                                                                                 |  |  |  |  |  |