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| -         | -              | <b>Year 8 Programme of Study</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                 |
| -         | -              | <i>Prior Learning - All students should be familiar with the terms: atoms, elements and compound and the difference between chemical and physical reactions. Students should know the basic structure and functions of plant and animals and reproduction. Students should have a good understanding of forces and the difference between contact and non-contact forces. They should have a good understanding of year 7 biology, chemistry and physics content (see year 7 programme of study).</i> |                                                                                                                 |
| <b>WK</b> | <b>Date</b>    | <b>Topics</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>KNOWLEDGE AND SKILLS</b>                                                                                     |
| 1         | 07/09/20<br>20 | <b>B2.1 Health and Lifestyle:</b> Students need to be able to define a healthy lifestyle and the factor which affect the quality of a person health. They will be able to describe the effect of diet, exercise, drugs, alcohol and smoking on a person health and the non-communicable diseases that are caused by an unhealthy lifestyle.                                                                                                                                                           | <b>Biology:</b> evaluate the use of type of drugs<br><b>Chemistry:</b> Draw the electronic structures of atoms. |
| 2         | 14/09/20<br>20 | Students will also be able to describe the structure and function of the digestive and circulatory system and the role that diffusion plays in both those systems.                                                                                                                                                                                                                                                                                                                                    |                                                                                                                 |
| 3         | 21/09/20<br>20 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                 |
| 4         | 28/09/20<br>20 | <b>C2.1 The periodic table:</b> Describe the differences between metals and non-metals and explain the trends in the periodic table. Describe and explain the properties of group 1,7 and group 0 elements. Be able to describe atomic structure and the difference between an element and a compound. Draw the electronic structures of atoms. Describe the different ways that elements behave in terms of bonding.                                                                                 |                                                                                                                 |
| 5         | 05-Oct         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                 |
| 6         | 12-Oct         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                 |

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| 7                | 19/10/20<br>20 | <b>Assessment</b><br>50% Year 7 content<br>25% Health and Lifestyle<br>25% The Periodic Table                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                             |
| <b>HALF TERM</b> |                |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                             |
| 8                | 02-Nov         | <b>P2.1 Electricity and Magnetism:</b> Explain how objects become charged.<br>Describe what is meant by an electric field.<br>Make a working circuit and use a range of circuit symbols.<br>Use circuits to describe and calculate current, potential difference and resistance.<br>Draw magnetic field diagrams.<br>Describe what an electromagnet is and when they are used.<br>Be able to describe the Earth's magnetic field. | <b>Physics:</b> Make a working circuit and use a range of circuit symbols. Rearrange the formulae triangle to calculate values using equations. Draw magnetic field diagrams<br><br><b>Biology:</b> Make a working circuit and use a range of circuit symbols.<br><br><br><br><br><br><br><br><br><br><b>All bio, chem and physics skills from year 7 and term 1 year 8</b> |
| 9                | 09-Nov         | <b>(Literacy Task)</b>                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                             |
| 10               | 16-Nov         | <b>Revise chemistry, physics and biology already taught from year 7 and year 8 ready for the assessment window.</b>                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                             |
| 11               | 23-Nov         | <b>Reteach topics from biology, chemistry and physics.</b>                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                             |

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| 12               | 30-Nov | <p><b>B2.2 Ecosystem Processes:</b> Describe the process of the photosynthesis and the structure and function of components of a leaf.</p> <p>Understand respiration, the equations and the differences between aerobic and anaerobic respiration.</p> <p>Describe the difference between food webs and food chains.</p> <p>Describe how organisms are interdependent on each other, describe an ecosystem and identify niches. Identify communities, understand sampling techniques, biodiversity and gene banks.</p> |  |
| 13               | 07-Dec |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| 14               | 14-Dec | <p><b>Assessment</b></p> <p>30% Year 7 Content</p> <p>20% Health and Lifestyle and The Periodic Table</p> <p>25% Electricity and Magnetism</p> <p>25% Ecosystem Processes</p>                                                                                                                                                                                                                                                                                                                                          |  |
| <b>CHRISTMAS</b> |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |

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| 15 | 04-Jan | <p><b>C2.2 Separation Techniques:</b> Students will be able to explain a mixture and the process of dissolving using the particle model.</p> <p>Students will gain an understanding of all the different techniques for separating solids and liquids and the different situations they are used in.</p>          | <p><b>Chemistry:</b> complete the seperating techniques practicals</p> <p><b>Physics:</b> be able to use the equation triangle to calculate energy values from a range of energy equations.</p> <p><b>All bio, chem and physics skills from year 7 and term 1 year 8.</b></p> |
| 16 | 11-Jan | <b>( P2.1 and C2.2 test)</b>                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                               |
| 17 | 18-Jan | <b>Physics reteach. Revise chemistry, physics and biology already taught from year 7 and year 8 ready for the assessment window.</b>                                                                                                                                                                              |                                                                                                                                                                                                                                                                               |
| 18 | 25-Jan | <p><b>P2.2 Energy:</b> Food and fuels.</p> <p>Understand the conservation of energy</p> <p>.Know the difference between heat and temperature.</p> <p>Energy transfer in terms of conduction, convection and radiation.</p> <p>Energy and Power. Energy resources.</p> <p>Be able to describe internal energy.</p> |                                                                                                                                                                                                                                                                               |

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| 19               | 01-Feb |                                                                                                                                                                                                                                                                                                                                          |                                                                        |
| 20               | 08-Feb | <b>Assessment</b><br>10% Year 7 content<br>20% Health and Lifestyle and The Periodic Table<br>20% Electricity & Magnetism and Ecosystem Processes<br>25% Separation Techniques<br>25% Energy                                                                                                                                             |                                                                        |
| <b>HALF TERM</b> |        |                                                                                                                                                                                                                                                                                                                                          |                                                                        |
| 21               | 22-Feb | <b>Assessment window and Reteach topics from biology, chemistry and physics.</b>                                                                                                                                                                                                                                                         | <b>All bio, chem and physics skills from year 7 and term 1 year 8.</b> |
| 22               | 01-Mar |                                                                                                                                                                                                                                                                                                                                          |                                                                        |
| 23               | 08-Mar | <b>C2.3 Metals and Acids:</b> Describe the reaction between metals and acids, metals and oxygen and metals and water.<br>Explain and describe the trend in displacement reaction.<br>Explain what metal ores are.<br>Be able to describe polymers and ceramics.<br>Be able to describe metal and non-metal oxides in respect to acidity. | <b>Chemistry:</b> construct and predict word equations.                |

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| 24 | 15-Mar | <b>Re-teach topics from live lessons-topics to teach: separation techniques (2 lessons), Energy Stores, Energy transfers, Work done Equations, Power Equations, Energy resources (2 lessons).</b>                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 25 | 22-Mar |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 26 | 12-Apr | <p><b>B2.3 Adaptation and Inheritance:</b> Describe and explain the adaptations of different organisms.<br/>         Explain how environmental change affects adaptation.<br/>         Know what variation is and how it happens.<br/>         Describe and explain the adaptations of different organisms.<br/>         Explain how our ideas about inheritance have developed.<br/>         Describe evolution by natural selection and extinction and how we can protect against it.</p> | <p><b>Biology:</b> interpret observations and data, including identifying patterns and using observations, measurements and data to draw conclusions (theory of evolution - fossil evidence).</p> <p><b>Chemistry:</b> • make predictions using scientific knowledge and understanding<br/>         • select, plan and carry out the most appropriate types of scientific enquiries to test predictions, including identifying independent, dependent and control variables<br/>         • use appropriate techniques, apparatus, and materials during fieldwork and laboratory work, paying attention to health and safety</p> <p>All bio, chem and physics skills from year 7 and term 1 year 8</p> |
| 27 | 19-Apr |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 28 | 26-Apr |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 29 | 03-May | <p><b>C2.4 The Earth:</b> The structure of the earth and the composition of the atmosphere.<br/>         How sedimentary rocks are made and their properties.<br/>         Describe how igneous and metamorphic rocks are formed.<br/>         Describe the rock cycle and carbon cycle.<br/>         Explain why global warming happens.<br/>         Know the advantages and disadvantages of recycling</p>                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 30 | 10-May |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 31 | 17-May |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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| 32               | 24-May | <b>Assessment</b><br>10% Year 7 content<br>10% Health and Lifestyle and The Periodic Table<br>10% Electricity & Magnetism and Ecosystem Processes<br>10% Separation Techniques and Energy<br>10% Metals and Acids<br>25% Adaptations and Inheritance<br>25% The Earth |                                                                       |
| <b>HALF TERM</b> |        |                                                                                                                                                                                                                                                                       |                                                                       |
| 33               | 07-Jun | <b>Physics reteach. Revise chemistry, physics and biology already taught from year 7 and year 8 ready for the assessment window.</b>                                                                                                                                  | <b>All bio, chem and physics skills from year 7 and term 1 year 8</b> |
| 34               | 14-Jun |                                                                                                                                                                                                                                                                       |                                                                       |

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| 35 | 21-Jun | <p><b>P2.3 Forces in action:</b> Calculate speed using the speed equation<br/> Describe relative motion including that of passing trains and cars.<br/> Choose equipment to make appropriate measurements for time and distance to calculate speed .<br/> Describe how atmospheric pressure changes with height.<br/> Describe how liquid pressure changes with depth.<br/> Be able to draw distance-time graphs.<br/> Predict quantitatively the effect of changing area and/or force on pressure<br/> Explain what is meant by a turning forces.</p> | <p><b>Physics:</b> be able to calculate speed using the equation. Be able to draw and interpret distance-time graphs.</p> |
| 36 | 28-Jun |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                           |
| 37 | 05-Jul |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                           |
| 38 | 12-Jul | <p><b>Final assessment</b><br/> 40% Year 7 content<br/> 40% Year 8 content<br/> 20% Forces in Action</p>                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                           |
| 39 | 19-Jul |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                           |