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| <b><u>Overview Document</u></b><br><b><u>2026/2027</u></b> | <u>Curriculum Area: Science</u>   | <u>Year Group: 9 ACE</u>       |
|                                                            | <u>Personnel Responsible: PPR</u> | <u>Quality Assured by: SKO</u> |

| Cycle | Topic/Unit Title – Big Question                                                                                                                            | Content Coverage                                                                                                                                                                                                                                                                              | Skill development and links to other areas of this subject's curriculum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| 1     | <p><b>What are the building blocks of life?</b></p> <p><b>What is everything made up of?</b></p> <p><b>What role does energy have in our universe?</b></p> | <p><u><b>Biology</b></u> Cells; Microscopes; Organ Systems; Skeleton; Diffusion.</p> <p><u><b>Chemistry</b></u> Elements, Compounds and Mixtures; Periodic Table; Particle Model.</p> <p><u><b>Physics</b></u> Energy Stores; Thermal Power Stations; Renewable and Non-Renewable Energy.</p> | <p>Students will begin to develop an understanding of cells, which will provide <b>building blocks for future learning</b> in Biology. Students will develop practical skills including the use of scientific equipment in Cycle 1 when looking at microscopes and how to use a microscope.</p> <p>Students will develop foundational knowledge on the particle model, periodic table and elements, which will provide the <b>building blocks and foundations for future learning</b>. Students will develop an understanding of lab safety and practical skills will be developed (Bunsen burners).</p> <p>Students will begin to develop knowledge on energy in our universe, <b>building blocks for future learning</b> (conservation law of energy). SMSC links to non-renewable.</p> <p>Students introduced to variables and knowledge of how the theory of science is developed as a result of scientific investigation.</p> |
| 2     | <p><b>Why is our diet so important?</b></p> <p><b>How can we separate mixtures?</b></p> <p><b>What do forces do?</b></p>                                   | <p><u><b>Biology</b></u> Nutrients and Digestion</p> <p><u><b>Chemistry</b></u> Separation Techniques</p> <p><u><b>Physics</b></u> Forces</p>                                                                                                                                                 | <p>Students will develop knowledge further on the process of digestion and nutrients (Year 8). SMSC development diabetes/diet and disease.</p> <p>Students will continue to develop practical skills including the use of scientific equipment when looking at separation techniques (<b>links to Year 7 Cycle 3 and Year 10 Cycle 4</b>). SMSC drinking water.</p> <p>Students will build on their Year 7 and 8 knowledge of forces and begin to understand how forces impact everyday objects e.g. cars. Students will develop their working scientifically skills by investigating how surfaces affect friction.</p>                                                                                                                                                                                                                                                                                                            |
| 3     | <p><b>What is the role of the heart?</b></p> <p><b>What are the properties of metals?</b></p> <p><b>How do electrical circuits work?</b></p>               | <p><u><b>Biology</b></u> Circulatory System</p> <p><u><b>Chemistry</b></u> Metals; Reactivity and Extraction Techniques.</p> <p><u><b>Physics</b></u> Electric Current; Potential Difference; Resistance; Series and Parallel Circuits.</p>                                                   | <p>Students will be building upon knowledge from previous years and cycles on cells, tissues, organs and organ systems. Students will apply previous knowledge to understand how the circulatory system works and its importance. SMSC heart disease and health.</p> <p>Students to build on knowledge of reactivity of metals (Year 8) when looking at Earth's resources.</p> <p>Students to further knowledge gained in Year 7 on electrical circuits and apply to equations. Students to understand the difference between series and parallel circuits. Students will develop practical skills when building circuits.</p>                                                                                                                                                                                                                                                                                                     |
| 4     | <p><b>Why is breathing so important?</b></p> <p><b>What are the properties of different materials?</b></p> <p><b>What is the structure of an atom?</b></p> | <p><u><b>Biology</b></u> Respiratory System and Respiration</p> <p><u><b>Chemistry</b></u> Polymers and Allotropes</p> <p><u><b>Physics</b></u> Atomic Structure and Decay</p>                                                                                                                | <p>Students will build on knowledge gained in Year 9 Cycle 1 (cells and organ systems) and apply knowledge to the respiratory system. Respiration will also build knowledge on conservation of energy law (Year 9 Cycle 1).</p> <p>Students will develop their working scientifically skills when planning and conducting an investigation on the effect of exercise on heart rate. SMSC exercise and health.</p> <p>Students will start to look at why materials have different properties and why certain materials are used for specific roles.</p> <p>Students will begin to look at the structure of an atom. Students will then explore how an unstable nuclei can decay.</p>                                                                                                                                                                                                                                                |