



| Subject                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Year                                                                                                                                                                                                                                                                                       | Term                                                                             |
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| SCIENCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 8                                                                                                                                                                                                                                                                                          | 2                                                                                |
| Topic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                            |                                                                                  |
| Biology – Ecosystems, Chemistry –Reactions & Periodic Table , Physics – Energy & Waves                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                            |                                                                                  |
| Content (Intent)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                            |                                                                                  |
| Prior Learning (Topic)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Organisms, Reactions and Forces                                                                                                                                                                                                                                                            |                                                                                  |
| Students will have a basic KNOWLEDGE of the process of respiration and photosynthesis.<br>Students will UNDERSTAND that energy can be transferred by particles and radiation and that elements can be arranged into groups and periods based on their properties.<br>Students will have the SKILLS needed to model properties of waves, test predictions and identify reaction types through experimentation. Students will learn to calculate bond energies and overall energy changes in reactions using data collected from observations and linear equations. |                                                                                                                                                                                                                                                                                            |                                                                                  |
| Future Learning (Topic)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Genes, The Earth and Electromagnets                                                                                                                                                                                                                                                        |                                                                                  |
| What Knowledge and Skills will be taught (Implementation)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | How will your understanding be assessed & recorded (Impact)                                                                                                                                                                                                                                |                                                                                  |
| <b>Biology</b> - There will be a sequence of lessons which include: aerobic, anaerobic respiration, biotechnology, photosynthesis and plant minerals.<br><b>Physics</b> - There will be a sequence of lessons which include: work, energy and machines, energy and temperature, energy transfer by particles and radiation, insulation. Followed by a series of lessons covering: wave effects of sound, water and energy.<br><b>Practical Skills</b> – Creating a model, collating data from observations, testing predictions and identify variables.           | <b>Key Piece of work (Homework)</b><br>Pupils given a percentage and formative feedback.<br><b>End of topic test</b><br>Pupils given a percentage, formative feedback and grade.<br><b>Year 8 end of term 2 and year exams</b><br>Pupils given a percentage, formative feedback and grade. |                                                                                  |
| <b>Chemistry</b> – There will initially be a sequence of lessons that cover: thermal decomposition, combustion, conservation of mass, exothermic/endothermic reactions, energy level diagrams and bond energies.<br>Then a further sequence of lessons which include: patterns in the periodic table, group 1, group 7 and 0.<br><b>Practical Skills</b> – Observations correctly recorded.<br><b>Maths Skills</b> – Linear equations and significant figures.                                                                                                    | <b>Key Piece of work (Homework)</b><br>Pupils given a percentage and formative feedback.<br><b>End of topic test</b><br>Pupils given a percentage, formative feedback and grade.<br><b>Year 8 end of term 2 and year exams</b><br>Pupils given a percentage, formative feedback and grade. |                                                                                  |
| How can parents help at home?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                            |                                                                                  |
| Ensure all class work is completed and homework submitted on time.<br>Assist in ensuring the active use of the EDUCAKE online learning platform where each pupil is given a personal log on from their teachers.<br>Encourage pupils to revise for tests and exams and to create revision resources such as flash cards and posters.<br>Ensure all pupils have all their resources required for science lessons, including knowledge organisers, exercise books, pens and calculators                                                                             |                                                                                                                                                                                                                                                                                            |                                                                                  |
| Helpful further reading/discussion (including Reading and Vocabulary Lists)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                            |                                                                                  |
| <b>Reading</b><br>Use the Educake online learning platform<br><a href="http://www.educake.co.uk/">www.educake.co.uk/</a><br>Use BBC bitesize<br><a href="https://www.bbc.com/bitesize/levels/z4kw2hv">https://www.bbc.com/bitesize/levels/z4kw2hv</a><br>Use and review the Knowledge Organisers used in class.                                                                                                                                                                                                                                                   | <b>Vocabulary Lists:</b><br>Aerobic<br>Anaerobic<br>Photosynthesis<br>Pulleys<br>Radiation                                                                                                                                                                                                 | Alkali metals<br>Noble Gases<br>Halogens<br>Halides<br>Exothermic<br>Endothermic |