

## Autumn Term

|                                                    | Week 1                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 |
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| Topic                                              | <b>P1.1 Forces and C1.1 Particles and their Behaviour.</b>                                                                                                                                                                                                                                                                                                                                                                                                      |        |        |        |        |        |        |        |
| Challenge Objective and Content (for all learners) | <p><b>Describe how a range of forces act on given examples.</b><br/>           Describe pairs of forces acting on an object.<br/>           Describe the effects of gravitational forces on Earth and in Space</p> <p><b>Use particle model to explain properties of substances and the three states of matter.</b><br/>           Use particle model to explain change of state, melting and freezing, boiling and melting points, diffusion and pressure.</p> |        |        |        |        |        |        |        |
| Inspire Opportunities                              | Apply Hooke's Law to make quantitative predictions with unfamiliar materials.<br>Explain why heat may not cause a temperature change                                                                                                                                                                                                                                                                                                                            |        |        |        |        |        |        |        |
| Assessment Opportunities                           | End of Topic Tests                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |        |        |        |        |        |        |

HALF TERM

|                                                    | Week 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | CHRISTMAS |
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| Topic                                              | <b>B1.1 Cells and C1.2 Elements, Atoms and Compounds.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                       |        |        |        |        |        |           |
| Challenge Objective and Content (for all learners) | <p><b>Describe the structure and function of organelles in plant and animal cells.</b><br/>           Link structure and function of specialist cells.<br/>           Calculate magnification and use a microscope.<br/>           Describe unicellular organisms.</p> <p><b>Use properties to determine use and explain the difference between elements and compound.</b><br/>           Use particles diagrams to explain why compounds have different properties than original elements.</p> |        |        |        |        |        |           |
| Inspire Opportunities                              | Explain and describe the similarities and differences of plant and animal cells.<br>Compare properties of compounds to their structure.                                                                                                                                                                                                                                                                                                                                                         |        |        |        |        |        |           |
| Assessment Opportunities                           | End of Topic Tests and Autumn Term Assessment                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |        |        |        |        |           |

## Spring Term

|                                                    | Week 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | HALF TERM |
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| Topic                                              | P1.2 Sound and B1.2 Structure and Function of Body Systems                                                                                                                                                                                                                                                                                                                                                                                                                                                         |        |        |        |        |        |           |
| Challenge Objective and Content (for all learners) | <p><b>Explain how we hear.</b><br/>Compare the properties of waves and their features.<br/>Describe sound as the transfer of energy through vibrations and explain why sound cannot travel through a vacuum.<br/>Explain how parts of the ear transfer vibrations.</p> <p><b>Describe and explain the role of human body systems.</b><br/>Explain in detail the hierarchy of organisation in a multicellular organism.<br/>Describe and explain inhaling and exhaling, measure lung volume and interpret data.</p> |        |        |        |        |        |           |
| Inspire Opportunities                              | Compare and contrast waves of different frequency using a diagram<br>Analyse the usefulness of the structure and function of skeleton tissue and joints against their function.                                                                                                                                                                                                                                                                                                                                    |        |        |        |        |        |           |
| Assessment Opportunities                           | End of Topic Tests                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |        |        |        |        |        |           |

|                                                    | Week 1                                                                                                                                                                                                                                                                                                                                                                             | Week 2 | Week 3 | Week 4 | Week 5 | EASTER |
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| Topic                                              | C1.3 Reactions and B1.3 Reproduction                                                                                                                                                                                                                                                                                                                                               |        |        |        |        |        |
| Challenge Objective and Content (for all learners) | <p><b>Experiment and discover the properties of substances.</b></p> <p>State the difference between chemical and physical changes and give examples</p> <p><b>Describe and explain the role of the reproductive systems.</b></p> <p>Explain fertilisation and the role of pollination in plants.</p> <p>Describe the role of individual organs within the reproductive system.</p> |        |        |        |        |        |
| Inspire Opportunities                              | <p>Compare and contrast the differences between physical and chemical changes, with examples as evidence.</p> <p>Explain the function of male and female reproductive organs within the reproductive system as a functioning system</p>                                                                                                                                            |        |        |        |        |        |
| Assessment Opportunities                           | End of Topic Tests and Spring Term Assessment                                                                                                                                                                                                                                                                                                                                      |        |        |        |        |        |
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## Summer Term

|                                                    | Week 1                                                                                                                                                                                                                                                                                                                 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | HALF TERM |
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| Topic                                              | P1.3 Light and Revision for End of Year Assessment                                                                                                                                                                                                                                                                     |        |        |        |        |        |           |
| Challenge Objective and Content (for all learners) | Explain how we see.<br>Compare a simple camera with the eye.<br>Predict how coloured objects will appear given different coloured lights and filters.<br>Predict the path of light using a model of light refraction.<br>Apply the concept of specular reflection and diffuse scattering to models and other examples. |        |        |        |        |        |           |
| Inspire Opportunities                              | Explain why humans can see different coloured light through lenses and filters.                                                                                                                                                                                                                                        |        |        |        |        |        |           |
| Assessment Opportunities                           | End of Topic Tests                                                                                                                                                                                                                                                                                                     |        |        |        |        |        |           |

|                                                    | Week 1                                        | Week 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Week 3 | Week 4 | Week 5 | Week 6 | SUMMER |
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| Topic                                              | End of Year Assessment                        | C1.4 Acids and Alkalis and P1.4 Space                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |        |        |        |        |        |
| Challenge Objective and Content (for all learners) |                                               | Experiment and identify pH values.<br><br>Use the pH scale to measure acidity and alkalinity and describe how indicators are used to identify acidic or alkaline solutions.<br><br>Describe the structure of the universe.<br><br>Describe the structure of the Universe in detail, in order of size and of distance away from the Earth.<br><br>Explain how the properties and features of planets are linked to their place in the Solar System.<br><br>Predict the effect of the Earth's tilt on temperature and day-length |        |        |        |        |        |
|                                                    |                                               | Analyses the difference in accuracy between two techniques used to measure pH.                                                                                                                                                                                                                                                                                                                                                                                                                                                 |        |        |        |        |        |
|                                                    |                                               | Explain why it is possible to see an eclipse on some of the planets in the Solar System but not others                                                                                                                                                                                                                                                                                                                                                                                                                         |        |        |        |        |        |
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| Assessment Opportunities                           | End of Topic Tests and End of Year Assessment |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |        |        |        |        |