

|                 | Topic     | Themes                                 | Knowledge   |
|-----------------|-----------|--|---|
| <b>Autumn 1</b> | Biology   | Health and disease                     | Skeletal system and movement.<br>Good and ill health.<br>Diet and exercise, effects on health.<br>Effect of lifestyle choices on health.<br>Measuring pulse rate and breathing rate |
|                 | Chemistry | Chemical change                        | Physical properties of substances.<br>Chemical properties of substances.<br>Chemical change and the formation of new products.<br>Evidence for chemical change.                     |
|                 | Physics   | Thermal energy stores and conduction   | Heating and cooling.<br>Effects on shape and size of metals.<br>Conductors and insulators.<br>Particle model of conduction.   |
| <b>Autumn 2</b> | Biology   | Identification and classification      | Identify macroscopic features of organisms.<br>Identify cellular features of organisms.<br>Identify organisms using a range of keys.<br>Classify organisms into hierarchal groups.  |
|                 | Chemistry | Earth's resources                      | Composition and structure of rock.<br>Composition and structure of the earth.<br>Rocks made by heating.   |
|                 | Physics   | Light and sight                        | Seeing in colour.<br>Image formation in a pinhole camera.<br>How the eye sees.<br>Image formation in a plane mirror.  |
| <b>Spring 1</b> | Biology   | Cellular respiration and organ systems | Aerobic respiration in humans.<br>Aerobic respiration in plants.<br>Adaptations to assist respiration – the lungs.<br>Adaptations to assist respiration – the digestive system.     |
|                 | Chemistry | Reactions in solution                  | Making solutions and the conservation of mass.  |

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|-----------------|-----------|--------------------------------------|---|
|                 |           |                                      | Solubility and factors that affect it.<br>Insoluble substances and formation of precipitates.<br>Displacement reactions.  |
|                 | Physics   | Days, seasons and the night sky      | Stars.<br>Galaxies.<br>The universe.<br>Night sky observations.<br>Earth's tilt and the seasons.  |
| <b>Spring 2</b> | Biology   | Plant nutritional and photosynthesis | Requirements.<br>Supply and demand.<br>Products and equation.<br>Respiration and photosynthesis in plants.<br>Importance of photosynthesis for plants and food chains |
|                 | Chemistry | Combustion reactions                 | Burning metals.<br>Burning fuels.<br>Combustion.<br>Pollution and air quality.  |
|                 | Physics   | Making images                        | Pinhole vs analogue camera vs digital.<br>Refraction and lenses.<br>Telescopes, microscopes.  |
| <b>Summer 1</b> | Biology   | Ecosystems                           | Communities.<br>Ecosystems.<br>Food chains.<br>Food webs.   |
|                 | Chemistry | Acids and alkalis                    | Acids and alkalis<br>Properties<br>Use of indicators.<br>pH scale.<br>Neutralisation.   |
|                 | Physics   | Moving by force                      | Instantaneous and average speed.<br>Resultant forces and movement.  |

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|-----------------|-----------|---------------------------------|--|
|                 |           |                                 | Relative speed.<br>Distance-time graphs.   |
| <b>Summer 2</b> | Biology   | Reproduction in plants          | Sexual reproduction in plants.<br>Asexual reproduction in plants.<br>Seed dispersal and adaptations. |
|                 | Chemistry | Air quality and the water cycle | Pollutants and air quality.<br>Acid rain.<br>Earth's spheres and the movement of water.              |
|                 | Physics   | More about force                | Mass and weight.<br>Normal contact force.<br>Interaction pairs of forces.                            |