

Timing	Unit	Core Context	Core Objectives	Key Skills	
1	Sept – Nov	Autumn	Digestion  Elements and the periodic table  Mathematical skills	Pupils will: <ul style="list-style-type: none"> <li>• Find out about different foods and how they can be combined to produce a balanced diet</li> <li>• Understand how food is broken down by digestion so it can be used by the body, for energy, growth and repair</li> <li>• Learn that the huge range of materials is made from a relatively small number of elements</li> <li>• Learn that each element is composed of one sort of atom only</li> <li>• Explore the characteristics of some elements</li> <li>• Practice and apply mathematical skills into a science context</li> </ul>	Using the particle model theory to explain what happens when elements combine  Mathematical skills
2	Nov – Feb	Winter	Breathing and respiration  Earth's structure  Magnetism and electromagnetism	Pupils will: <ul style="list-style-type: none"> <li>• Describe how cells are supplied with the materials they need for respiration</li> <li>• Understand how cells in animals and plants release energy</li> <li>• Distinguish between compounds and mixtures</li> <li>• Explain why a rock has a particular property based on how it is formed</li> <li>• Identify the causes of weathering and erosion and describe how they occur</li> <li>• Identify magnetic materials, make a magnet and test the strength of a magnet</li> <li>• Use the concepts of a magnetic field, a permanent magnet and an electromagnet</li> <li>• Explain the working of a number of devices that use magnets and electromagnets</li> </ul>	Distinguish between elements and compounds and how they are represented by symbols and formulae  Model the processes that are responsible for rock formation and link these to the rock features  Investigate the factors affecting the strength of an electromagnet

3	Feb – May	Spring	<p>Earth's climate</p> <p>Light</p> <p>Heating and cooling</p>	<p>Pupils will:</p> <ul style="list-style-type: none"> <li>• Describe how global warming can impact on climate and local weather patterns Build on their knowledge of light and its effects</li> <li>• Learn how we see objects</li> <li>• Represent light as a ray and use this concept to explain reflection and refraction</li> <li>• Find out about the origin of coloured light and the appearance of coloured objects</li> <li>• Recognise the need for a temperature scale</li> <li>• Distinguish between heat and temperature</li> <li>• Learn about mechanisms of heat transfer: conduction, convection and radiation, and apply this to familiar contexts</li> <li>• Learn about expansion and change of state in solids, liquids and gases.</li> </ul>	<p>Investigate the contribution that natural and human chemical processes make to our carbon dioxide emissions</p> <p>Data analysis Use ray diagrams to model how light passes through lenses and transparent materials</p> <p>Use the particle model theory to explain conduction, convection and radiation</p>
4	May – July	Summer	<p>Interdependence</p> <p>Sound</p> <p>Speed</p>	<p>Pupils will:</p> <ul style="list-style-type: none"> <li>• Describe how a species population changes as its predator or prey population changes</li> <li>• Explain effects of environmental changes and toxic materials on a species population</li> <li>• Combine food chains to form a food web</li> <li>• Build on their knowledge of sound and hearing</li> <li>• Explain how sound travels through media</li> <li>• Illustrate a journey with changing speed on a distance-time graph, and label changes in motion</li> <li>• Describe how the speed of an object varies when measured by observers who are not moving, or moving relative to the object</li> </ul>	<p>Use a model to investigate the impact of changes in a population of one organism on others in the ecosystem</p> <p>Give an explanation of how the ear works, find out about the harmful effects of loud noise and how loud noise can be reduced</p> <p>Calculations</p>