

# Science Long Term Plan Y3/4

## Cycle A

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Animals including humans (Y3)</b>		<b>Light (Y3)</b>	<b>Animals including humans (Y4)</b>	<b>Electricity (Y4)</b>	<b>Sound (Y4)</b>
<p><b>Knowledge and Understanding</b></p> <ul style="list-style-type: none"> <li>identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat</li> <li>identify that humans and some other animals have skeletons and muscles for support, protection and movement</li> </ul>		<p><b>Knowledge and Understanding</b></p> <ul style="list-style-type: none"> <li>recognise that they need light in order to see things and that dark is the absence of light</li> <li>notice that light is reflected from surfaces</li> <li>recognise that light from the sun can be dangerous and that there are ways to protect their eyes</li> <li>recognise that shadows are formed when the light from a light source is blocked by an opaque object</li> <li>find patterns in the way that the size of shadows change</li> </ul>	<p><b>Knowledge and Understanding</b></p> <p>describe the simple functions of the basic parts of the digestive system in humans</p> <ul style="list-style-type: none"> <li>identify the different types of teeth in humans and their simple functions</li> </ul> <p>construct and interpret a variety of food chains, identifying producers, predators and prey</p>	<p><b>Knowledge and Understanding</b></p> <p>identify common appliances that run on electricity</p> <p>construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <p>identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery</p> <p>recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</p> <p>recognise some common conductors and insulators, and associate metals with being good conductors</p>	<p><b>Knowledge and Understanding</b></p> <p>identify how sounds are made, associating some of them with something vibrating</p> <ul style="list-style-type: none"> <li>recognise that vibrations from sounds travel through a medium to the ear</li> <li>find patterns between the pitch of a sound and features of the object that produced it</li> <li>find patterns between the volume of a sound and the strength of the vibrations that produced it</li> <li>recognise that sounds get fainter as the distance from the sound source increase</li> </ul>

Scientific Enquiry		Scientific Enquiry	Scientific Enquiry	Scientific Enquiry	Scientific Enquiry
<p><b>Finding and using information</b> They recognise why it is important to collect data to answer questions They use simple texts to find information. They select information from sources provided for them.</p> <p><b>Observations</b> They make a series of observations and measurements.</p> <p><b>Questioning</b> Pupils respond to suggestions and put forward their own ideas about how to find an answer to a question.</p>		<p><b>Prediction</b> Where appropriate, they make predictions.</p> <p><b>Fair Test</b> With some help they carry out a fair test, recognising and explaining why it is fair.</p>	<p><b>Observation</b> They make a series of observations and measurements.</p> <p><b>Finding and using information</b> They recognise why it is important to collect data to answer questions They use simple texts to find information. They select information from sources provided for them.</p> <p><b>Questioning</b> Pupils respond to suggestions and put forward their own ideas about how to find an answer to a question.</p>	<p><b>Using equipment</b> They select suitable equipment to use.</p> <p><b>Prediction</b> Where appropriate, they make predictions.</p> <p><b>Fair Testing</b> With some help they carry out a fair test, recognising and explaining why it is fair</p>	<p><b>Prediction</b> Where appropriate, they make predictions.</p> <p><b>Communicating findings</b> They record their observations in a variety of ways. They communicate in a scientific way what they found out.</p> <p><b>Drawing Conclusions</b> They provide explanations for observations and for simple patterns in recorded measurements</p>

## Cycle B

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Forces and Magnets (Y3)</b>	<b>Rocks and Soils (Y3)</b>		<b>States of matter (Y4)</b>	<b>Plants (Y3)</b>	<b>Living things and their habitats (Y4)</b>
<p><b>Knowledge and Understanding</b></p> <p>compare how things move on different surfaces</p> <p>notice that some forces need contact between 2 objects, but magnetic forces can act at a distance</p> <p>observe how magnets attract or repel each other and attract some materials and not others</p> <p>compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials</p> <p>describe magnets as having 2 poles</p> <p>predict whether 2 magnets will attract or repel each other, depending on which poles are facing</p>	<p><b>Knowledge and Understanding</b></p> <ul style="list-style-type: none"> <li>compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</li> <li>describe in simple terms how fossils are formed when things that have lived are trapped within rock</li> <li>recognise that soils are made from rocks and organic matter</li> </ul>		<p><b>Knowledge and Understanding</b></p> <ul style="list-style-type: none"> <li>compare and group materials together, according to whether they are solids, liquids or gases</li> <li>observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)</li> <li>identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</li> </ul>	<p><b>Knowledge and Understanding</b></p> <p>identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <ul style="list-style-type: none"> <li>explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant</li> <li>investigate the way in which water is transported within plants</li> </ul> <p>explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</p>	<p><b>Knowledge and Understanding</b></p> <ul style="list-style-type: none"> <li>recognise that living things can be grouped in a variety of ways</li> <li>explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</li> <li>recognise that environments can change and that this can sometimes pose dangers to living things</li> </ul>

Scientific Enquiry	Scientific Enquiry	Scientific Enquiry	Scientific Enquiry	Scientific Enquiry	Scientific Enquiry
<p><b>Fair test</b> In their own investigative work, they decide on an appropriate approach (for example using a fair test) to answer a question. Where appropriate, they describe, or show in the way they perform their task, how to vary one factor while keeping the others the same.</p> <p><b>Prediction</b> Where appropriate, they make predictions.</p>	<p><b>Using and finding information</b> They recognise why it is important to collect data to answer questions They use simple texts to find information.</p> <p><b>Observation</b> They make a series of observations and measurements.</p> <p><b>Prediction</b> Where appropriate, they make predictions.</p>	<p><b>Using and finding information</b> They recognise why it is important to collect data to answer questions They use simple texts to find information.</p> <p><b>Questioning</b> Pupils respond to suggestions and put forward their own ideas about how to find an answer to a question.</p>	<p><b>Observation</b> They make a series of observations and measurements.</p> <p><b>Fair test</b> In their own investigative work, they decide on an appropriate approach (for example using a fair test) to answer a question. Where appropriate, they describe, or show in the way they perform their task, how to vary one factor while keeping the others the same.</p> <p><b>Communicate Findings</b> They record their observations in a variety of ways. They communicate in a scientific way what they found out.</p>	<p><b>Use of equipment and measuring</b> They select suitable equipment to use. They make a series of measurements that are adequate for the task</p> <p><b>Finding and using information</b> They recognise why it is important to collect data to answer questions They use simple texts to find information. They select information from sources provided for them.</p> <p><b>Fair test</b> In their own investigative work, they decide on an appropriate approach (for example using a fair test) to answer a question. Where appropriate, they describe, or show in the way they perform their task, how to vary one factor while keeping the others the same.</p>	<p><b>Prediction</b> Where appropriate, they make predictions.</p> <p><b>Communicating findings</b> They record their observations in a variety of ways. They communicate in a scientific way what they found out.</p> <p><b>Drawing Conclusions</b> They provide explanations for observations and for simple patterns in recorded measurements. They use these graphs to point out and interpret patterns in their data. They begin to relate their conclusions to these patterns and to scientific knowledge and understanding.</p>

