

<b>Year 1/2 CYCLE A</b>		
<b>ALL CHILDREN SHOULD CARRY SIMPLE TESTS AT LEAST ONCE PER TERM</b>		
<i>Autumn</i>	<i>Spring</i>	<i>Summer</i>
<p><b>Area: Everyday Materials</b>  <b>Learning focus:</b>                      To distinguish between an object and the material from which it is made.                      To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.                      To describe the simple physical properties of a variety of everyday materials.                      To compare and group together a variety of everyday materials on the basis of their simple physical properties.  <b>Suggested themes:</b>                      Materials                      What is the best material to....</p>	<p><b>Area: Animals; including humans</b>  <b>Learning focus:</b>                      To identify and name a variety of common animals including fish, amphibians, reptiles, mammals, birds.                      To identify and name a variety of common animals that are carnivores, herbivores and omnivores.                      To describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets).                      Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.    <b>Suggested themes:</b>                      Habitats in our local environment                      Pets                      Animals around the World                      Our wonderful body</p>	<p><b>Area: Plants</b>  <b>Learning focus:</b>                      To identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.                      To identify and describe the basic structure of a variety of common flowering plants, including trees.                      To grow their own plants.  <b>Suggested theme:</b>                      Our garden                      Plants in our environment                      Why are some flowers so colourful?                      Do all trees lose their leaves?</p>
<b>Year 1/2 CYCLE B</b>		
<b>ALL CHILDREN SHOULD CARRY OUT A SIMPLE TEST AT LEAST ONCE PER TERM</b>		
<i>Autumn</i>	<i>Spring</i>	<i>Summer</i>
<p><b>Area: Uses of Everyday Materials</b>  <b>Learning focus:</b>                      To learn about and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.                      To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p><b>Areas: Living Things and their Habitats</b>  <b>Learning focus:</b>                      To explore and compare the differences between things that are living, dead, and things that have never been alive(characteristics of living things).                      To notice that animals; including humans, have offspring which grow into adults.                      To identify that most living things live in a habitat to which they are suited and describe how</p>	<p><b>Area: Plants</b>  <b>Learning focus:</b>                      To observe and describe how seeds and bulbs grow into mature plants – growing their own plants in garden area.                      To find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>

<p><b>Suggested themes:</b> The work of John Dunlop or Charles Mackintosh or John McAdam. How do we use this material in the environment and at home?</p>	<p>different habitats provide the basic needs of different kinds of animals, plants, and how they depend on each other (including micro-habitats). To identify and name plants and animals in the habitats (including micro-habitat).</p> <p><b>Area: Animals Including Humans</b> Notice that animals, including animals have off spring which grow into adults. Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. To describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food. To find out about and describe the basic needs of animals; including humans, for survival (water, food, air).</p> <p><b>Suggested theme:</b> What's going on in the habitats in our school and the wider community (woodland and seashore)? Survival – what would we need if we were shipwrecked?</p>	<p><b>Area: Animals Including Humans</b> To describe the importance for humans to exercise, eat the right amounts of different food types and hygiene. <b>Suggested theme:</b> Our garden. What do I need to stay healthy?</p>
<p><b>By the end of key stage 1 children should:</b></p> <ul style="list-style-type: none"> <li>• Ask simple questions and recognise they can be answered in different ways.</li> <li>• Observe closely - using simple equipment.</li> <li>• Perform simple tests.</li> <li>• Identify and classify.</li> <li>• Use their observations and ideas to suggest answers to questions.</li> <li>• Gather and record information and simple data to help in answering questions. Use the scientific vocabulary they have been taught.</li> </ul> <p>Within Key Stage 1 reference should be made to '<i>notes and guidance (non-statutory)</i>' for vocabulary.</p>		

<b>Year 3/4 CYCLE A</b>		
<b>ALL CHILDREN SHOULD CARRY OUT A PRACTICAL ENQUIRIES AND FAIR TESTS AT LEAST ONCE PER TERM</b>		
<i>Autumn</i>	<i>Spring</i>	<i>Summer</i>
<p><b>Area: Forces and Magnets</b> <b>Learning focus:</b> To compare how things move on different surfaces To notice some forces need contact between two objects, but magnetic forces can act at distance. To observe how magnets attract or repel each other and attract some materials and not others. To compare and group together a variety of everyday materials on the basis of whether they are attracted to magnets and identify some magnetic materials. To describe why magnets have 2 poles. To predict whether 2 magnets will attract or repel each other, depending on which way their poles are facing.</p> <p><b>Suggested themes</b> Mighty magnets!</p> <p><b>Area: Rocks (short unit)</b> <b>Learning focus:</b> To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. To describe in simple terms how fossils are formed when things that have lived are trapped within rock. To recognise that soils are made from organic matter and rocks.</p> <p><b>Suggested themes:</b> Let's be archaeologists! What's in our garden soil? Are all rocks the same?</p>	<p><b>Area: Animals; including Humans</b> <b>Learning focus:</b> To identify that humans and some other animals have skeletons and muscles for support and protection and movement.</p> <p><b>Suggested themes:</b> Why do animals have a skeleton?</p>	<p><b>Area: Plants</b> <b>Learning focus:</b> To identify and describe the functions of different parts of flowering plants: roots, stem; trunk, leaves, flowers. To explore the requirements of plants from life and growth (<b>AIR</b>, light, water, nutrients, soil and room to grow) and how they vary from plant to plant. To explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. To investigate the way that water is transported in plants.</p> <p><b>Area: Animals; including Humans</b> To identify that animals; including humans, need the right types and amounts of nutrition and that they cannot make their own nutrition but have to get it from what they eat.</p> <p><b>Suggested theme:</b> Our garden – what do our plants need to stay healthy. Why do plants produce flowers? How do plants reproduce? What do I need to stay healthy?</p>

<b>Year 3/4 CYCLE B</b>		
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<i>Autumn</i>	<i>Spring</i>	<i>Summer</i>
<p><b>Area: Animals including Humans</b> <b>Learning focus:</b> To describe the simple functions of the basic parts of the digestive system in humans. To describe different types of teeth in humans and their simple functions. To construct and interpret a variety of food chains, identifying producers, predators and prey.</p> <p><b>Area: States of Matter(short unit)</b> <b>Learning focus:</b> To compare and group materials together according to whether they are solids, liquids or gases. To observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens (in Celsius). To identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p><b>Area: Living things and their Habitats</b> <b>Learning focus:</b> To recognise that living things can be grouped in a variety of ways. To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. To recognise that environments can change and that this can sometimes pose dangers to living things.</p> <p><b>Area: Electricity(short unit)</b> <b>Learning focus:</b> To identify common appliances that run on electricity. To construct simple series electrical circuit, identifying and naming its basic parts, including wires, bulbs, switches and buzzers. To identify whether or not a lamp will light a simple series circuit, based on whether or not the lamp is part of a complete loop with the battery To recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. To recognise some common conductors and insulators, and associate metals as being good conductors.</p>	<p><b>Area: Light (short unit)</b> <b>Learning focus:</b> To recognise that they need light in order to see things and that dark is the absence of light. To notice that light is reflected from surfaces. To recognise that light from the sun can be dangerous and that they need to protect their eyes. To recognise that shadows are formed when light from a light source is blocked by a solid object To find patterns in the way the size of shadows can change.</p> <p><b>Suggested themes:</b> Why does my shadow look different throughout sunny days?</p> <p><b>Area: Sound (short unit)</b> <b>Learning focus year 4:</b> To identify how sounds are made, associating some of them with something vibrating. To recognise that vibrations from sounds travel through a medium to the ear. To find patterns between the pitch of a sound and features of the object that produced it. To find patterns between the volume of a sound and the strength of the vibrations that produced it. To recognise that sounds get fainter as the distance from the sound source increases.</p>
<p><b>By the end of lower key stage 2 children should:</b></p> <ul style="list-style-type: none"> <li>Form simple hypothesis or pose relevant scientific questions and use different types of scientific enquiry to answer them.</li> <li>Set up simple practical enquiries, comparative and fair tests.</li> </ul>		

- Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.
- Gather, record, classify and present data in a variety of ways to help answer scientific questions.
- Record findings using simple scientific language, drawing labelled diagrams, keys, bar charts and tables.
- Report on findings from enquiries/experiments, **including oral and written explanations**, displays or presentations of results and conclusions.
- **Use results to draw simple conclusions, suggest improvements and raise further questions – when pertinent.**
- Identify differences, similarities or changes related to simple scientific ideas and processes.
- Use the scientific vocabulary they have been taught accurately and consistently.
- Use **straightforward** scientific evidence to answer a scientific question or to support their hypothesis.

Reference should be made to '**notes and guidance (non-statutory)**' for vocabulary

**Year 5/6 CYCLE A**

**ALL CHILDREN SHOULD CARRY OUT A PRACTICAL ENQUIRIES AND FAIR TESTS AT LEAST ONCE PER TERM**

<i>Autumn</i>	<i>Spring</i>	<i>Summer</i>
<p><b>Area: Animals including Humans</b>  <b>Learning focus:</b>                      To describe differences in the life cycles of mammal, amphibian, an insect and bird                      To describe the life processes of reproduction in some plants and animals.  <b>Learning focus:</b>                      To describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals.                      Give reasons for classifying plants and animals based on specific characteristics.</p>	<p><b>Area: Properties and Changes of Material</b>  <b>Learning focus:</b>                      To compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets.                      To know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.                      To use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.                      To give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood, plastic.                      To demonstrate that dissolving, mixing and changes of state are reversible changes                      To explain that some changes result in the formation of new materials and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.</p>	<p><b>Area: Light</b>  <b>Learning focus:</b>                      To recognise that light seems to travel in straight lines.                      To use the idea that light travels in straight lines to explain how objects are seen because they give out or reflect light into the eye.                      To explain that we see things because light travels from light source to our eyes or from light source to objects and then to our eyes.                      To use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p> <p><b>Area: Electricity</b>  <b>Learning focus:</b>                      To associate the brightness of a lamp or volume of a buzzer with the number and voltage of cells used in the circuit.                      To compare and give reasons for variations in how components function, including the brightness of</p>

		bulbs, the loudness of buzzers and the on/off position of switches. To use recognised symbols when representing a simple circuit in a diagram.
<i>Year 5/6 CYCLE B</i>		
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<i>Autumn</i>	<i>Spring</i>	<i>Summer</i>

<p><b>Area: Properties and Changes of Material</b> <b>Learning focus:</b></p> <p>To compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets.</p> <p>To know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p> <p>To use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p> <p>To give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood, plastic.</p> <p>To demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>To explain that some changes result in the formation of new materials and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.</p>	<p><b>Area: Evolution and Inheritance</b> <b>Learning focus:</b></p> <p>To recognise that living things have changed over time and fossils provide information about living things that inhabited the Earth millions of years ago.</p> <p>To recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</p> <p>To identify how animals and plants have adapted to suit their environment in different ways and that adaptation leads to evolution.</p> <p><b>Area: Animals including Humans</b> <b>Learning focus:</b></p> <p>To identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</p> <p>To recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p> <p>To describe the ways in which nutrients and water are transported within animals and humans.</p> <p>To describe changes as humans develop to old age.</p>	<p><b>Area: Forces</b> <b>Learning focus:</b></p> <p>To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <p>To identify the effects of air resistance, water resistance and friction, that act between moving surfaces.</p> <p>To recognise that some mechanisms, including levers, pulleys and gears, allow smaller forces to have greater effect.</p> <p><b>Area: Earth and Space</b> <b>Learning focus:</b></p> <p>To describe the movement of the Earth, and the other planets, relative to the Sun in the solar system.</p> <p>To describe the movement of the moon relative to the Earth.</p> <p>To describe the Sun, Earth and moon as approximately spherical bodies.</p> <p>To use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.</p>
<p><b>By the end of upper key stage 2 children should:</b></p> <ul style="list-style-type: none"> <li>Form hypothesis about a scientific question. Understand the need for variables and controls within scientific enquiry and be able to discuss what these should be. Plan different types of scientific enquires to answer a hypothesis, including recognising and controlling variables where necessary.</li> <li>Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</li> <li>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</li> <li>Use test results to set up <b>FURTHER</b> comparative and fair tests.</li> </ul>		

- Report and present findings from experiments/enquires, including conclusions, causal relationships and explanations and the degree of trust in results, in oral **AND** written forms such as displays and other presentations.
- Discuss scientific evidence that has supported or refuted their hypothesis.  
Use the scientific vocabulary they have been taught accurately and consistently.

Within upper key stage 2 reference should be made to *'notes and guidance (non-statutory)' for vocabulary*