



# Burton Agnes CE Primary School

## Science Progression of Knowledge and skills

### Plants/seasonal change/all living things

EYFS

By the end of KS1  
(Y1 dark pink, Y2 pale pink)

By the end of Lower Key Stage 2  
(Y3 dark blue, Y4 pale blue)

By the end of Upper KS2  
(Y5 dark green, Y6 pale green)

<p>Discuss the features of the environment and make verbal and pictorial observations</p> <p>Understand that all plants have roots and be able to discuss this</p> <p>Be able to talk about the needs of a plant to survive e.g. needing food and water</p> <p>Know that weather changes throughout the year and explain how this changes their day to day lives</p> <p>ELG they make observations of plants and animals and explain why some things occur, and talk about changes</p>	<p>Identify and name at least 3 different common plants from a <i>selection of garden plants, wild plants and trees, deciduous and evergreen</i></p> <p>Observe and describe how different seeds and bulbs grow into mature plants. Through discussions, written diaries and images.</p> <p>Identify and describe the basic structure of variety of common flowering plants using these key words: roots, stem/trunk, leaves, flower</p> <p>Discover that plants need water, light and food to stay healthy</p> <p>Describe how plants stay healthy and give at least 1 example of how different plants need different things</p> <p>Observe changes across the four seasons and name the seasons confidently.</p> <p>Explain through pictures and writing how the weather changes throughout the seasons and how day length varies. Explore and compare the differences</p>	<p>Explore the role of the flower (pollination, seed formation, seed dispersal)</p> <p>Understand that some vegetable plants have flowers and be able to explain this</p> <p>Identify and name living plants and animals in the local and wider environment using classification keys they create.</p> <p>Recognise that environmental changes (including human impact and natural changes) can pose dangers to all living things</p> <p>Identify and describe the functions of variety of common flowering plants through practical application (roots, stem, leaves, flower)</p> <p>Explore how the living requirements vary between different plants giving examples (e.g. some flowers need constant sunlight whereas others need some shade)</p>	<p>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</p> <p>Describe the life processes and reproduction in some plants and animals</p> <p>Describe how living things are classified into broad groups according to observable characteristics and based on similarities and differences, including micro-organisms, plants and animals</p> <p>Give reasons for classifying plants and animals based on their specific characteristics</p>
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## Animals including humans/Evolution

EYFS	By the end of KS1 (Y1 dark pink, Y2 pale pink)	By the end of Lower KS2 (Y3 dark blue, Y4 pale blue)	By the end of Upper KS2 (Y5 dark green, Y6 pale green)
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<p>Name at least 3 animals that would be found in Yorkshire</p> <p>Understand that some animals eat plants and some animals eat other animals</p> <p>ELG they make observations of plants and animals and explain why some things occur, and talk about changes</p> <p>Identify, name, draw and label the basic parts of the human body which are associated with the senses</p> <p>Explain how we look after our bodies in simple terms e.g. staying clean, drinking water and eating our meals</p> <p>Notice that babies grow into adults</p>	<p>Identify and name a variety of common animals and sort them into birds, fish, amphibians, reptiles and mammals</p> <p>Identify and name a variety of common animals and sort them into carnivores, herbivores and omnivores</p> <p>Describe and compare a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</p> <p>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense</p> <p>Describe the basic needs of animals and humans (food, water, air)</p> <p>Identify animals (and humans) need correct nutrition and they get nutrition from what they eat,</p> <p>Describe how to live a healthy lifestyle through exercise and healthy eating</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food through a balanced diet</p> <p>Notice that animals, including humans, have offspring which grow into adults through nurturing</p>	<p>Construct a complex food chain identifying producers, consumers, predators and prey with at least 4 steps</p> <p>Identify and name living plants and animals in the local and wider environment using classification keys they have designed</p> <p>Be able to explain that animals (including humans) can not make their own food compared with plants</p> <p>Describe the simple functions of the human digestive system. Identify the different types of teeth in humans and their functions.</p> <p>Identify that humans and some animals have skeletons and muscles for support, protection and movement</p>	<p>Recognise that living things have changed over time and fossils provide information dating back millions of years</p> <p>Understand that living things produce offspring and normally offspring are not identical to parents, understand that this is evolution</p> <p>Identify how animals and plants are adapted to suit their environment and adaptation may lead to evolution.</p> <p>Compare animals and plants in different habitats and how they have adapted.</p> <p>Identify and name the main parts of the human circulatory system and explain functions of heart, blood vessels and blood</p> <p>Describe how nutrients and water are transported within animals and humans, specifically referring to the blood vessels</p> <p>Describe the changes to the human body as humans develop to old age</p> <p>Explain how diet, exercise and drugs impact upon the way bodies function throughout this life cycle</p>

## Everyday materials/forces/start of matter/properties and changes of Materials

EYFS	By the end of KS1 (Y1 dark pink, Y2 pale pink)	By the end of lower KS2 (Y3 dark blue, Y4 pale blue)	By the end of Upper KS2 (Y5 dark green, Y6 pale green)
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<p>Explain that objects feel different and this means they are made from different things</p>	<p>Explain that a magnet only attracts metal. Use scientific vocabulary (attract and repel)</p> <p><b>Identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock</b></p> <p><b>Distinguish between an object and the material it is made from</b></p> <p><b>Identify and compare a variety of everyday materials including wood, plastic, glass, metal, water, brick, paper, cardboard and rock</b></p> <p><b>Describe the simple physical properties of everyday materials using appropriate language (hard, soft, bendy, stiff, clear)</b></p> <p><b>Compare and group materials on the basis of their simple properties</b></p> <p><b>Explore how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</b></p> <p><b>Compare how different materials can change shape</b></p>	<p>Notice that some forces need contact between two objects, but magnetic forces can act at a distance</p> <p>Observe that magnets can attract and repel each other and some materials</p> <p>Compare how things move on different surfaces, explain the role of friction</p> <p>Describe a magnet as having two poles. Predict whether 2 magnets will attract or repel based on the position of the poles</p> <p>Compare and group everyday materials on the basis of their magnetism</p> <p>Compare different materials and explain why different materials are chosen to make objects</p> <p>Classify materials into solids, liquids and gases</p> <p>Compare and group materials together based on their properties, explain how groupings may change based on state of matter</p> <p>Begin to understand how materials change state (chocolate can be melted to become a liquid)</p> <p>Understand evaporation and condensation within the water cycle – associate evaporation with temperature changes</p> <p>Observe that some materials change state when they are heated or cooled (not only solid to liquid) and measure or research the temperature at which this happens in degrees Celsius (°C)</p> <p><b>compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</b></p> <p><b>describe in simple terms how fossils are formed when things that have lived are trapped within rock</b></p> <p><b>recognise that soils are made from rocks and organic matter</b></p>	<p><b>Understand that force and motion can be transferred through mechanical devices.</b></p> <p><b>Explain how an unsupported object will fall to the Earth. Explore how surface area and air resistance changes how an object falls</b></p> <p><b>Identify the effects of air resistance, water resistance and friction, that act between moving surfaces</b></p> <p><b>Recognise that some mechanisms, including levers and pulleys and gears, allow a smaller force to have a greater effect.</b></p> <p><b>Compare and group materials based on evidence from comparative fair tests (hardness, solubility, transparency, conductivity and response to magnets)</b></p> <p><b>Identify effects of air resistance, water resistance and friction on objects when they move</b></p> <p><b>Demonstrate that dissolving, mixing and changes of state are reversible changes.</b></p> <p><b>Explain some changes result in formation of new materials and this is not usually reversible</b></p> <p><b>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</b></p> <p><b>Know some materials dissolve in liquid to form a solution and describe how to recover a substance from a solution.</b></p> <p><b>Use knowledge of solids, liquids and gases to decide how to separate mixtures (filtering, sieving, evaporating)</b></p>
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Light/sound			
EYFS	By the end of KS1	By the end of Lower KS2 (Y3 dark blue, Y4 pale blue)	By the end of Upper KS2 (Y5 dark green, Y6 pale green)
		<p>Recognise that light is needed in order to see things and that dark is the absence of light</p> <p>Notice that light is reflected from surfaces for us to see</p> <p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>Explain how shadows are formed when the light from a light source is blocked by a solid object</p> <p>Find patterns in the way that the size of shadows change. Through experiments throughout the day</p> <p>Identify how sounds are made – through vibration Recognise that vibrations from sounds travel through a medium to the ear</p> <p>Find the pattern between volume of a sound and strength of vibrations produced</p> <p>Find the pattern between the pitch of sound and features of the object which produces it</p> <p>Recognise that sounds get fainter as the distance from the sound source increases, thinking about the sound waves</p>	<p>Understand that light travels in a straight line</p> <p>Use the journey light takes to explain how we see things</p> <p>Use the idea that light travels in a straight line to explain that objects are seen because they reflect light into the eye</p> <p>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p>
Electricity			
EYFS	By the end of KS1	By the End of Lower KS2 (Y3 dark blue, Y4 pale blue)	By the end of Upper KS2 (Y5 dark green, Y6 pale green)

		<p>Construct a simple series circuit identifying 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 common conductors and insulators – associate that metal is a good conductor</p>	<p>Use recognised symbols when representing a simple circuit in a diagram</p> <p>Associate the brightness of a lamp or the volume of a buzzer with the number of cells in a circuit.</p> <p>Compare and give reasons for variations in how components function</p> <p>Compare and give reasons for variations in how components function, including the brightness of bulbs, loudness of buzzers and the on/off position of switches.</p>
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## Earth and space

EYFS	By the end of KS1	By the end of Lower KS2	By the end of Upper KS2 (Y5 dark green, Y6 pale green)
			<p>Describe the movement of Earth and other planets relative to the Sun in the Solar System</p> <p>Describe the movement of the moon relative to the Earth</p> <p>Describe the Sun, Earth and moon as relatively spherical bodies</p> <p>Use the idea of the Earth's rotation to explain day and night</p>