



Science Knowledge – Learning Progression of Skills							
Key Area	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
NC subject content							
<p>Plants</p> <p>Progression (Black)</p> <p>Links to other Scientific areas (Red)</p>	<p>Draw information from a simple map.</p> <p>Explore the natural world around them.</p> <p>Describe what they see, hear and feel whilst outside.</p> <p>Recognise some environments that are different to the one in which they live.</p> <p>Understand the effect of changing seasons on the natural world around them.</p>	<p>Know and name a variety of common wild and garden plants, including deciduous and evergreen trees.</p> <p>Know and name the petals, stem, leaves and root of a plant.</p> <p>Know and name the roots, trunk, branches and leaves of a tree.</p>	<p>Know and explain how seeds and bulbs grow into mature plants.</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p> <p>Identify and name a variety of plants and animals in their habitats, including microhabitats. (Y2 - Living things and their habitats)</p> <p>Know how a specific habitat provides for the basic needs of things living there (plants and animals)</p>	<p>Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</p> <p>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.</p> <p>Investigate the way that water is transported within plants.</p> <p>Know the plant life cycle, especially the importance of flowers.</p>	<p>Recognise that living things can be grouped in a variety of ways. (Y4 - Living things and their habitats)</p> <p>Use classification keys to help group, identify and name a variety of living things in their local and wider environment. (Y4 - Living things and their habitats)</p> <p>Know how changes to an environment could endanger living things (Y4 - Living things and their habitats)</p>	<p>Describe the life process of reproduction in some plants and animals. (Y5 - Living things and their habitats).</p> <p>Create a timeline to indicate stages of growth in humans.</p>	<p>Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals. (Y6 - Living things and their habitats)</p> <p>Give reasons for classifying plants and animals based on specific characteristics. (Y6 - Living things and their habitats)</p>

<p>Living things and their habitats</p> <p>Progression (Black)</p> <p>Links to other Scientific areas (Red)</p>	<p>Draw information from a simple map.</p> <p>Explore the natural world around them.</p> <p>Describe what they see, hear and feel whilst outside.</p> <p>Recognise some environments that are different to the one in which they live.</p>	<p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. (Y1 - Plants)</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees. (Y1 - Plants)</p> <p>Identify, name and classify a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 - Animals including humans)</p> <p>Know and classify a range by what they eat (carnivores, herbivores and omnivores). (Y1 - Animals including humans)</p> <p>Describe and compare the structure of a variety of common animals. (Y1 - Animals, including humans)</p> <p>Know how to sort by living and non-living things.</p>	<p>Explore, compare and classify things that are living, dead, and things that have never lived.</p> <p>Know how a specific habitat provides for the basic needs of living things (plants and animals).</p> <p>Identify, name and match a variety of plants and animals to/in their habitats, including microhabitats.</p> <p>Name some different sources of food for animals.</p> <p>Know about and explain a simple food chain.</p> <p>Know the basic stages in a life cycle for animals, including humans. (Y2 - Animals including humans)</p>	<p>Know the plant life cycle, especially the importance of flowers. (Y3 - Plants)</p> <p>Investigate the way that water is transported within plants. (Y3 - Plants)</p>	<p>Recognise that living things can be grouped in a variety of ways.</p> <p>Use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>Recognise that environments can change and that this can sometimes pose dangers to living things.</p> <p>Construct and use a variety of food chains, identifying producers, predators and prey. (Y4 - Animals, including humans)</p> <p>Know how changes to an environment could endanger living things (Y4 - Living things and their habitats)</p>	<p>Know the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>Know the process of reproduction in some plants and animals.</p> <p>Know the life cycle of different living things e.g. mammal, amphibian, insect and bird.</p>	<p>Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals.</p> <p>Give reasons for classifying plants and animals based on specific characteristics.</p> <p>Know about reproduction and offspring (recognising that offspring normally vary and are not identical to their parents) (Y6 - Evolution and inheritance)</p> <p>Know how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. (Y6 - Evolution and inheritance)</p>
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		Observe changes across the four seasons. (Y1 - Seasonal change)					
<p>Animals including humans</p> <p>Progression (Black)</p> <p>Links to other Scientific areas (Red)</p>	<p>Talk about members of their immediate family and community.</p> <p>Name and describe people who are familiar to them.</p> <p>Recognise some environments that are different to the one in which they live.</p>	<p>Know and classify a range of common animals by fish, amphibians, reptiles, birds and mammals.</p> <p>Know and classify a animals by what they eat (carnivores, herbivores and omnivores.)</p> <p>Describe and compare the structure of 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>Know how to sort by living and non-living things.</p>	<p>Know the basic stages in a life cycle for animals, including humans.</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).</p> <p>Know why exercise, a balanced diet and good hygiene are important for humans.</p> <p>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. (Y2 - Living things and their habitats)</p>	<p>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.</p> <p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p> <p>Know how nutrients, water and oxygen are transported within animals.</p>	<p>Identify and name the parts of the human digestive system.</p> <p>Identify the different types of teeth in humans and their simple functions.</p> <p>Use and construct food chains, identifying producers, predators and prey.</p>	<p>Describe the changes as humans develop to old age.</p> <p>Create a timeline to indicate stages of growth in humans.</p> <p>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. (Y5 - Living things and their habitats)</p> <p>Describe the life process of reproduction in some plants and animals. (Y5 - Living things and their habitats)</p>	<p>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</p> <p>Know the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p> <p>Know the ways in which nutrients and water are transported within animals, including humans.</p> <p>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. (Y6 - Living things and their habitats)</p>

<p>Evolution and Inheritance</p> <p>Progression (Black)</p> <p>Links to other Scientific areas (Red)</p>	<p>Recognise some environments that are different to the one in which they live. (Reception – Living things and their habitats)</p>		<p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). (Y2 - Living things and their habitats)</p> <p>Know the basic stages in a life cycle for animals, including humans.</p> <p>Notice that animals, including humans, have offspring which grow into adults. (Y2 - Animals, including humans)</p>	<p>Know how soil is made and how fossils are formed. (Y3 - Rocks)</p> <p>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. (Y3 - Plants)</p>	<p>Recognise that environments can change and that this can sometimes pose dangers to living things. (Y4 - Living things and their habitats)</p>	<p>Describe the life process of reproduction in some plants and animals. (Living things and their habitats - Y5)</p>	<p>Know how Earth and living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</p> <p>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</p> <p>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p> <p>Link adaptation over time to evolution.</p> <p>Know about evolution and can explain what it is.</p>
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<p>Seasonal Changes</p> <p>Progression (Black)</p> <p>Links to other Scientific areas (Red)</p>	<p>Explore the natural world around them.</p> <p>Describe what they see, hear and feel whilst outside.</p> <p>Understand the effect of changing seasons on the natural world around them.</p>	<p>Observe changes across the four seasons.</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p> <p>Name the seasons and know about the type of weather in each season.</p>		<p>Know about the danger of direct sunlight and describe how to keep protected. (Y3 - Light)</p>		<p>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky. (Y5 - Earth and space)</p>	
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<p>Materials</p> <p>Progression (Black)</p> <p>Links to other Scientific areas (Red)</p>	<p>Explore the natural world around them.</p> <p>Describe what they see, hear and feel whilst outside.</p>	<p>Know the name of the materials an object is made from.</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</p> <p>Know about the properties of everyday materials.</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>	<p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</p> <p>Find out and know how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. (Y3 - Rocks)</p> <p>Know how soil is made and how fossils are formed. (Y3 - Rocks)</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. (Y3 - Forces and magnets)</p>	<p>Compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>Know about and explore how some materials change state.</p> <p>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).</p> <p>Know the part played by evaporation and condensation in the water cycle.</p> <p>Know the difference between a conductor and insulator; giving examples of each. (Y4 - Electricity)</p>	<p>Compare and group materials based on their properties, e.g. hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.</p> <p>Know and explain how some materials will dissolve in liquid to form a solution.</p> <p>Know and show how to recover a substance from a solution.</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>Know how some changes result in the</p>	
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						<p>formation of new material and that this is usually irreversible.</p>	
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<p>Rocks</p> <p>Progression (Black)</p> <p>Links to other Scientific areas (Red)</p>	<p>Explore the natural world around them. (Reception – Living things and their habitats)</p> <p>Describe what they see, hear and feel whilst outside. (Reception – Living things and their habitats)</p>	<p>Know the name of the materials an object is made from. (Y1 - Everyday materials)</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. (Y1 - Everyday materials)</p> <p>Know about the properties of everyday materials. (Y1 - Everyday materials)</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties. (Y1 - Everyday materials)</p>	<p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. (Y2 - Uses of everyday materials)</p>	<p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within rock.</p> <p>Recognise that soils are made from rocks and organic matter.</p>			<p>Know how Earth and living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. (Y6 - Evolution and inheritance)</p>
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<p>Light</p> <p>Progression (Black)</p> <p>Links to other Scientific areas (Red)</p>	<p>Describe what they see, hear and feel whilst outside.</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. (Y1 - Animals, including humans)</p> <p>Know about the properties of everyday materials. (Y1 - Materials)</p>		<p>Recognise that they need light in order to see things and that dark is the absence of light.</p> <p>Know that light is needed in order to see and is reflected from surfaces.</p> <p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</p> <p>Recognise that shadows are formed when the light from a light source is blocked by an opaque object.</p> <p>Explain how a shadow changes shape.</p>		<p>Compare and group materials based on their properties, e.g. hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. (Y5 - Properties and changes of materials)</p>	<p>Know how light travels.</p> <p>Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.</p> <p>Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.</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> <p>Know why shadows have the same shape as an object.</p> <p>Know how simple optical instruments work e.g. telescope, periscope, binoculars, mirror, magnifying glass.</p>
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<p>Electricity</p> <p>Progression (Black)</p> <p>Links to other Scientific areas (Red)</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>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</p> <p>Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p> <p>Know how the number and voltage of cells in a circuit links to brightness of a lamp or the volume of a buzzer.</p>
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<p>Sound</p> <p>Progression (Black)</p> <p>Links to other Scientific areas (Red)</p>	<p>Describe what they see, hear and feel whilst outside.</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. (Y1 - Animals, including humans)</p>			<p>Know how sound is made, associating some of them with vibrating.</p> <p>Recognise that vibrations from sounds travel through a source to our ears.</p> <p>Know the correlation between the pitch of a sound and the object.</p> <p>Know the correlation between the volume of a sound and the strength of the vibrations that produced it.</p> <p>Recognise that sounds get fainter as the distance from the sound source increases.</p>		
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<p>Earth and Space</p> <p>Progression (Black)</p> <p>Links to other Scientific areas (Red)</p>	<p>Explore the natural world around them.</p> <p>Describe what they see, hear and feel whilst outside.</p>	<p>Observe changes across the four seasons. (Y1 – Seasonal changes)</p> <p>Observe and describe weather associated with the seasons and how day length varies. (Y1 – Seasonal changes)</p>				<p>Describe the movement of the 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 approximately spherical bodies.</p> <p>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p>	
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