



Progression of Skills and Knowledge – Science



Science is split into different categories which are taught across the year groups. Below is the progression of skills that children should learn from EYFS until they leave us in Year 6.

EYFS Science:

Nursery	Personal, Social and Emotional Development	My Body
	Communication and Language	Accessing real life experiences and understanding 'why' questions. (Link to The Very Hungry Caterpillar.)
	Understanding the World	The Seasons, Weather, Looking after the world, animals and plants (Ducklings.) Food and Hygiene and Habitats
Reception	Personal, Social and Emotional Development	My Body, Exercise and Managing self (Hygiene)
	Communication and Language	Making comments and asking questions to clarify understanding.
	Understanding the World	The Seasons, Weather, Looking after the world, animals and plants (Ducklings.)
Early Learning Goal (ELG)	The Natural World	Explore the natural world around them, making observations and drawing pictures of animals and plants.
		Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.
		Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Animals Including Humans:						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Notice that different animals have different body parts (some have no legs, some have lots)</p> <p>Notice that some animals are adapted to live under the sea and that humans are adapted to live on land.</p> <p>Know how to talk about different places an animals might live.</p> <p>Know that some animals hibernate.</p>	<p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</p> <p>Identify and name a variety of common animals that are 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>Notice that animals, including humans, have offspring which grow into adults.</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air.)</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</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>Identify and name a variety of different bones.</p> <p>Classify bones that protect different organs and move.</p>	<p>To describe the simple functions of the basic parts of the digestive system in humans.</p> <p>To identify the different types of teeth in humans and their simple functions.</p> <p>To construct and interpret a variety of food chains, identifying producers, predators and prey.</p>	<p>To describe the changes as humans develop to old age.</p> <p>To indicate stages in growth and development of humans.</p> <p>To describe and explain the main changes that occur during puberty.</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, including humans.</p>

Living Things and Their Habitats:						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Name and describe some plants and animals which the children are likely to see.</p> <p>Encourage children to recognise familiar plants and animals whilst outside.</p> <p>Know about similarities and differences in relation to living things and their habitats.</p> <p>Talk about the features of our own immediate environment and how environments might vary from one another.</p>		<p>Explore and compare the differences between things that are living, dead, and things that have never been alive.</p> <p>Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.</p> <p>Identify and name a variety of plants and animals in their habitats, including microhabitats.</p> <p>Describe how animals obtain their food from plants and other animals, using the idea of a</p>		<p>Recognise that living things can be grouped in a variety of ways.</p> <p>Explore and 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>Research the effects of cutting down trees in rainforests.</p> <p>Create a classification key to name living things.</p>	<p>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>Describe the life process of reproduction in some plants and animals.</p> <p>Look for patterns about the gestation period of different mammals.</p> <p>Observe how plants can reproduce asexually.</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.</p> <p>Give reasons for classifying plants and animals based on specific characteristics.</p> <p>Develop classification keys: non- flowering plants and flowering plants.</p> <p>Research scientist: Carolus Linnaeus to understand the Linnaean System of classification.</p>

		<p>simple food chain, and identify and name different sources of food.</p> <p>Know how to identify and name a variety of plants and animals in their habitats, including micro-habitats.</p>				
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Plants:

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Know that plants need sun and water to grow.</p> <p>Know some plants grow from seeds.</p> <p>Talk about why leaves change colour.</p>	<p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p>Closely observe the growth of a seed to a sunflower.</p> <p>Make close observations of leaves and plants.</p>	<p>Observe and describe 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>Describe the basic needs of plants for survival and the impact of changing these and the main changes as seeds and bulbs grow into mature plants.</p> <p>Describe a life cycle of a sunflower.</p> <p>Understand what parts of plants we eat.</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 in which water is transported within plants.</p> <p>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>			

Everyday Materials:						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Talk about the differences between materials and changes they notice.</p> <p>Explore collections of materials with similar and /or different properties.</p> <p>Use all of the senses in hands-on exploration of natural materials.</p>	<p>Distinguish between an object and the material from which it is made.</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</p> <p>Describe the simple physical properties of a variety 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 how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p><u>Rocks:</u> 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><u>States of Matter:</u> Compare and group materials together, according to whether they are solids, liquids or gases.</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>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p>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>Know that some materials will dissolve in liquid to form a solution, and describe 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>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>	
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Light:						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			<p>Recognise that they need light in order to see things and that dark is the absence of light.</p> <p>Notice that light 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>Find patterns in the way that the size of shadows change.</p>			<p>Recognise that light appears to travel in straight lines.</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>

Seasonal Changes:						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Understand the effect of changing seasons on the natural world around them.</p> <p>Understand and draw children's attention to the weather and seasonal features.</p> <p>Encourage children to observe how animals behave differently as the seasons change.</p>	<p>Observe changes across the 4 seasons.</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p> <p>Understand why we wear the appropriate clothing when the weather changes.</p> <p>Recognise different weather symbols which are useful.</p> <p>These areas of the curriculum are taught at different stages during the year.</p> <p>Autumn and Winter – Autumn 2</p> <p>Spring – Spring 2</p> <p>Summer – Summer 2</p>	<p>Observing and describing weather associated with the seasons, and how day length varies.</p> <p>Understanding that some types of weather can be dangerous. (Linked to the environment topic.)</p>				

Electricity:						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				<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</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>

				and insulators, and associate metals with being good conductors.		
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Earth and Space:						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					<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>	

Sound:						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Describe what they can see, hear and feel while they are outside. (Understanding the World.)</p>				<p>Identify how sounds are made, associating some of them with something vibrating.</p> <p>Recognise that vibrations from sounds travel through a medium to the ear.</p> <p>Find patterns between the pitch of a sound and features of the object that produced it.</p> <p>Find patterns 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>		

Scientists and Inventors:						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			<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>Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</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</p>	<p>Recognise that environments can change and that this can sometimes pose dangers to living things.</p> <p>Identify the different types of teeth in humans and their simple functions.</p> <p>Compare and group materials together, according to whether they are solids, liquids or gases.</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>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>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>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>Describe the movement of the</p>	<p>Give reasons for classifying plants and animals based on specific characteristics.</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>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p> <p>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</p>

			<p>lived are trapped within rock.</p> <p>Notice that light is reflected from surfaces.</p> <p>Observe how magnets attract or repel each other and attract some materials and not others.</p>	<p>Recognise that vibrations from sounds travel through a medium to the ear.</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>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>Earth, and other planets, relative to the Sun in the solar system.</p> <p>Find out about the work of naturalists and animal behaviourists. (Non-statutory)</p> <p>Describe how scientific ideas have changed over time. (Non-statutory)</p>	<p>Use recognised symbols when representing a simple circuit in a diagram.</p>
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Evolution and Inheritance:						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
						<p>Recognise that 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>

Forces and Magnets:						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			<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>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <p>Identify the effects of air resistance, water resistance and friction that act between moving surfaces.</p> <p>Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.</p>	

			Predict whether 2 magnets will attract or repel each other, depending on which poles are facing.			
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The Environment:

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Recognise some environments that are different to the one in which we live.</p> <p>Focused observation of the natural world by listening to children describing and commenting on things they have seen whilst outside, including plants and animals.</p>		<p>Explore ecological challenges that face the modern world.</p> <p>Engage with environmental issues and understand the simple changes we can make to live more sustainable lives.</p> <p>Focus on the Working Scientifically strand of objectives, providing a range of opportunities for children to apply practical scientific methods and skills.</p>				