



SCIENCE CURRICULUM COVERAGE

End of EYFS Expectations

- 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.

Key Stage 1 National Curriculum Expectations

Pupils should be taught:

Working scientifically – asking simple questions and recognising that they can be answered in different ways ♣ observing closely, using simple equipment ♣ performing simple tests ♣ identifying and classifying ♣ using their observations and ideas to suggest answers to questions ♣ gathering and recording data to help in answering questions.

Year 1 – identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals ♣ identify and name a variety of common animals that are carnivores, herbivores and omnivores ; distinguish between an object and the material from which it is made ♣ identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock ♣ describe the simple physical properties of a variety of everyday materials ♣ compare and group together a variety of everyday materials on the basis of their simple physical properties.; observe changes across the four seasons ♣ observe and describe weather associated with the seasons and how day length varies.;

Year 2 – explore and compare the differences between things that are living, dead, and things that have never been alive ♣ 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 ♣ identify and name a variety of plants and animals in their habitats, including microhabitats ♣ 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.; observe and describe how seeds and bulbs grow into mature plants ♣ find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.; notice that animals, including humans, have offspring which grow into adults ♣ find out about and describe the basic needs of animals, including humans, for survival (water, food and air) ♣ describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.; identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses ♣ find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

	Knowledge Progression						
	Early Years	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Plants	Name and describe basic features of plants and trees.	Label and describe the basic structure of a variety of common flowering plants, including trees. Identify, compare, group and sort a variety of common wild and garden plants, including deciduous and evergreen trees, based on observable features.	Describe how plants need water, light and a suitable temperature to grow and stay healthy. Identify and name a variety of plants in a range of habitats and microhabitats. Observe and describe how seeds and bulbs grow into mature plants.	Name and describe the functions of the different parts of flowering plants (roots, stem, leaves and flowers). Investigate how water is transported within plants. 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. Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	Compare, sort and group living things from a range of environments, in a variety of ways, based on observable features and behaviour. Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. Recognise that environments can change and that this can sometimes pose dangers to living things.	Label and draw the parts of a flower involved in sexual reproduction in plants (stamen, filament, anther, pollen, carpel, stigma, style, ovary, ovule and sepal). Group and sort plants by how they reproduce.	Describe how animals and plants can be bred to produce offspring with specific and desired characteristics (selective breeding). Classify living things, including plants, into groups according to common observable characteristics and based on similarities and differences.

Living things and their habitats	Match animals to the foods that they eat.	Group and sort a variety of common animals based on the foods they eat. Identify and classify carnivores, herbivores and omnivores.	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.	Compare and contrast the diets of different animals.	Construct and interpret a variety of food chains and webs to show interdependence and how energy is passed on over time. Identify producers, predators and prey.	Describe, using their knowledge of food chains and webs, what could happen if a habitat had a living thing removed or introduced.	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. Give reasons for classifying plants and animals based on specific characteristics.
	Observe and describe living things and their habitats within the local environment.	Observe the local environment throughout the year and ask and answer questions about living things and seasonal change.	Explore and compare the differences between things that are living, dead, and things that have never been alive 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. Identify and name a variety of plants and animals in their habitats, including micro-habitats.	Describe how environments can change due to natural influences and how living things need to be able to adapt to these changes.	Describe how environments can change due to human and natural influences and the impact this can have on living things.	Research and describe different farming practices in the UK and how these can have positive and negative effects on natural habitats.	Research unfamiliar animals and plants from a range of habitats, deciding upon and explaining where they belong in the classification system.

	Early Years	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Survival	Describe some ways that plants or animals should be cared for in order for them to survive.	Describe how to care for plants and animals, including pets.	Explain how animals, including humans, need water, food, air and shelter to survive.	Describe the requirements of plants for life and growth (air, light, water, nutrients and room to grow) and how they vary from plant to plant.	Explain how adaptations help living things to survive in their habitat.	Describe the life process of reproduction in some plants and animals.	Identify how animals and plants are adapted to suit their environment, such as giraffes having long necks for feeding, and that adaptations may lead to evolution.
Animals, including humans	Name and locate basic body parts. Use all their senses in hands-on exploration of natural materials.	Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	Describe the stages of human development (baby, toddler, child, teenager, adult and elderly).	Name some muscles and bones in the body. Describe how humans need the skeleton and muscles for support, protection and movement.	Describe the purpose of the digestive system, its main parts and each of their functions.	Describe the process of human reproduction.	Name and describe the purpose of the circulatory system and the functions of the heart, blood vessels and blood
	Wash and dry hands regularly and say why this is important.	Explain why hand washing and cleanliness are important.	Describe the importance of a healthy lifestyle, including exercise, a balanced diet, good quality sleep and personal hygiene.	Explain the importance and characteristics of a healthy, balanced diet.	Describe what damages teeth and how to look after them.	Explain why personal hygiene is important during puberty.	Explain the impact of positive and negative lifestyle choices on the body.
	Match animals to their young. Identify common features for different groups of Animals.	Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Describe and compare the structure of a variety of common animals.	Notice that animals, including humans, have offspring which grow into adults.	Identify and group animals that have no skeleton, an internal skeleton (endoskeleton) and an external skeleton (exoskeleton).	Identify the four different types of teeth in humans and other animals, and describe their functions.	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals.	Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.

	Early Years	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Seasonal changes	<p>Understand the effect of changing seasons on the natural world around them.</p> <p>Describe simply how weather changes as the seasons change.</p>	<p>Observe changes across the four seasons.</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p>		Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.		<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> <p>Describe the movement of the Moon relative to the Earth.</p>	
Materials	<p>Name and sort everyday items into groups of the same material.</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>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>Group and sort materials as being reflective or non-reflective.</p>	<p>Group and sort materials into 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 everyday materials by their properties, including hardness, solubility, transparency, conductivity (electrical and thermal) and magnetism.</p> <p>Explain, following observation, that some substances (solutes) will dissolve in liquid (solvents) to form a solution and the solute can be recovered by evaporating off the solvent.</p>	<p>Investigate and identify good thermal insulators, describing their common features.</p>
	<p>Use all their senses in hands-on exploration of natural materials.</p> <p>Explore collections of materials with similar and/or different properties.</p> <p>Talk about the differences between materials and changes they notice.</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>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>Compare and group rocks based on their appearance, properties or uses.</p> <p>Compare and group materials based on their magnetic properties.</p>	<p>Describe materials as electrical conductors or insulators.</p>	<p>Separate mixtures by filtering, sieving and evaporating.</p> <p>Describe, using evidence from comparative or fair tests, why a material has been chosen for a specific use, including metals, wood and glass.</p>	<p>Describe, using diagrams, how light behaves when reflected off a mirror (plane, convex or concave) and when passing through a lens (concave or convex).</p>

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Light	<p>Explore how things work.</p> <p>Make a shadow bigger or smaller using toys, play equipment and a light source.</p>	<p>Compare shadows made by different objects and materials.</p>		<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 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>

	Early Years	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Forces	<p>Describe, predict and sort things that float and sink.</p> <p>Explore how things work.</p> <p>Explore and talk about different forces they can feel.</p>	<p>Investigate weather using toys, models or simple equipment.</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>Compare how things move on different surfaces.</p> <p>Notice that some forces need contact between two 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 two poles.</p> <p>Predict whether two magnets will attract or repel each other, depending on which poles are facing.</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>	
Sound		<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>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>		

	Early Years	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Electricity	Explore how things work.				<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>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>

	Skills Progression						
	Early Years	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Asking questions	Show curiosity and ask questions.	Asking simple questions and recognising that they can be answered in different ways.		Asking relevant questions and using different types of scientific enquiries to answer them.		Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	
Making observations and taking measurements	Make observations using their senses and simple equipment.	Observing closely, using simple equipment.		Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.		Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.	
Performing tests and enquiries	<p>Identify, sort and group.</p> <p>Make direct comparisons.</p>	<p>Performing simple tests.</p> <p>Identifying and classifying.</p>		Setting up simple practical enquiries, comparative and fair tests.		Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	
Recording and presenting evidence	Record their observations by drawing, taking photographs, using sorting rings or boxes and on simple tick sheets.	Gathering and recording data to help in answering questions.		<p>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.</p> <p>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</p>		Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.	
Answering questions and concluding	<p>Talk about what they have done and found out.</p> <p>Use their observations to help them to answer their questions.</p>	<p>Using their observations and ideas to suggest answers to questions.</p> <p>Using their observations and ideas to suggest answers to questions.</p>		<p>Using straightforward scientific evidence to answer questions or to support their findings.</p> <p>Identifying differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p>		<p>Identifying scientific evidence that has been used to support or refute ideas or arguments.</p> <p>Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.</p>	