Science Progression

	Nursery	Reception	Year 1 Cycle B	Year 2 Cycle A	Year 3	Year 4	Year 5	Year 6
Animals incl humans	Begin to make sense of their own life-story and family's history. Make healthy choices about food, drink, activity and toothbrushing.	Know and talk about the different factors that support their overall health and wellbeing: - regular physical activity - healthy eating - toothbrushing - sensible amounts of 'screen time' - having a good sleep routine - being a safe pedestrian Describe what they see, hear and feel while they are outside.	Identify, name, draw and label main body parts which can be seen (nose, eyes, knee, shoulder etc) and say which part of the body is associated with each sense. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)	Know that animals, including humans have offspring which grow into adults. Found out and describe the basic needs of animals and humans for survival. Describe the importance of exercise, eating the right amounts of different foods and hygiene.	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 Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	Describe the simple function of the basic parts of the digestive systems in humans. Identify the different types of teeth in humans and their simple functions. Construct and interpret food chains, identifying producers, predators and prey.	Describe changes as humans develop from birth to old age.	Identify and name the main parts of the human circulatory system and describe the functions of the heart, blood vessels and blood. Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. Describe the ways in which nutrients and water are transported within animals, including humans.
Plants	Understand the key features of the life cycle of a **plant** and an animal. Plant seeds and care for growing plants.	Make observations of animals and plants and explain why some things occur and talk about changes**.**	Identify and name a variety of common wild and garden plants, including deciduous and evergreen. Identify and describe the basic structure of a plants and trees: stem, leaf, roots, petal, trunk, flower.	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.	Identify and describe the functions of different flowering parts: roots, stem/trunk, leaves and flowers. Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, room to grow) and how they vary plant to plant. To investigate the way in which water is transported within plants.			

					To explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.			
Living things & their habitats	Understand the key features of the life cycle of a plant and an **animal**. Begin to understand the need to respect and care for the natural environment and all living things.	Recognise some environments that are different to the one in which they live. Explore the natural world around them, making observations and drawing pictures of animals and plants.		Explore and compare 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 the basic needs of different kinds of animals, 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 animals obtain their foods from plants and other animals, using the idea of a simple food chain and identify and name different sources of food.		To recognise that living things can be grouped in different ways. To explore and use classification keys to help groups, identify and name a variety of living things in their local and wider environment. To recognise that environments can change and that this sometimes pose dangers to living things.	Describe differences in life cycles of mammals, an insect, an amphibian and a bird. Describe the life process of reproduction in some plants and animals.	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.
Materials	Use all their senses in hands-on exploration of natural materials.	Understand some important processes and changes in the natural world around them,	To distinguish between an object and the material from which it is made.	Identify and compare the suitability of a variety of everyday materials, including		Compare and group materials together, according to whether	Compare and group materials on the basis of their properties, including hardness,	

	Explore collections of materials with similar and/or different properties Talk about the differences between materials and changes they notice	including the **seasons** and changing states of matter.	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 – soft, hard, rough, smooth, waterproof. Compare and group together a variety of everyday materials on the basis of their physical properties.	wood, metal, plastic, glass, brick, rock, paper, and cardboard for particular uses. Find out how shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.		they are solids, liquids or gases. Observe that some materials change state when they are heated or cooled, and measure or research temperature at which this happen in degrees Celsius (°C) Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	solubility, transparency, conductivity (electrical and thermal) and response to magnets. Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. Use knowledge of solids, liquids, gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. Demonstrate that dissolving, mixing and changes of state are reversible changes. 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.	

Seasonal changes		Understand the effect of changing seasons on the natural world around them. Understand some important processes and changes in the natural world around them, including the **seasons** and changing states of matter.	All 4 seasons and observe changes across them. Weathers associated with the seasons and the varied day lengths.					
Forces	Explore and talk about different forces they can feel. Explore how things work – wind-up toys, pulleys etc.				To compare how things move on different surfaces. To notice that some forces need contact between two objects but magnetic forces act at a distance. To observe how magnets attract/repel each other and attract some other materials and not others through observation. To compare and group a variety of everyday materials on the basis of whether they are magnetic and identify some magnetic materials. To describe magnets as having 2 poles.		Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Identify the effects of air resistance, water resistance and friction, that act between moving surfaces. Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	

					Predict whether 2 magnets will attract or repel each other depending on which poles are facing.			
Light					To know that light is needed in order to see things and that dark is the absence of light. To know that light is reflected from surfaces. To recognise that light from the sun can be dangerous. To know that shadows are formed when the light from a light source is blocked by a solid object. To find patterns in the way that the size of shadows changes.			Recognise that light appears to travel in straight lines. Use the idea that light travels in straight lines to explain that objects re seen because they give our or reflect light into the eye. 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. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.
Sound						Identify how sounds are made, associating them with something vibrating. Recognise that vibrations travel through a medium in the ear. Find patterns between the pitch of a sound and		

						features of the object that produced it. Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases.		
Rocks					To know how to compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. To know in simple terms how fossils are formed when things that have lived are trapped within rock To know that soils are made from rocks and organic matter.			
Earth & space							Describe the movement of the earth and other planets, relative to the sun in the solar system. Describe the movement of the moon relative to the earth.	

							Know and demonstrate how night and day are created. Describe the sun, earth and moon as approximately spherical bodies. Identify when the UK is experiencing Summer/ Winter. Use the ideas of the Earth's rotation to explain that day and night and the apparent movement of the sun across the sky.	
Electricity						Identify and know common appliances which run on electricity. Construct a simple circuit, naming the basic parts, including cells, wires, bulbs, switches and buzzers. Identify whether a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with battery. Recognise that a switch opens and closes the circuit and associate this with whether or not a lamp lights in a simple series circuit.		Associate the brightness of a lamp or the volume of a buzzer with the number of voltage cells used in the circuit. 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. Use recognised symbols when representing a simple circuit in a diagram.

						Recognise some common conductors and insulator and associate metals with being good conductors.		
Evolution & inheritance		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.						Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.
Working scientifically	Understand 'why' questions, like: "Why do you think the caterpillar got so fat?" Talk about what they see, using a wide vocabulary Use all their senses in hands-on exploration of natural materials.	Ask questions to find out more and to check what has been said to them. Articulate their ideas and thoughts in well-formed sentences. Describe events in some detail. Explore the natural world around them.	Ask simple questions and recognise that they can be answered in different ways. Observing closely, using simple equipment (such as pipettes, jugs, goggles) Performing simple tests. Identify and classifying	Ask simple questions and recognise that they can be answered in different ways. Observing closely, using simple equipment (such as pipettes, jugs, goggles) Performing simple tests. Identify and classifying	Asking relevant questions and using different types of scientific enquiries to answer them. Setting up simple practical enquiries, comparative and fair tests. Making systematic and careful observations and, where appropriate,	Asking relevant questions and using different types of scientific enquiries to answer them. Setting up simple practical enquiries, comparative and fair tests. Making systematic and careful observations and, where appropriate,	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking	scientific enquiries to answer questions, including recognising and controlling variables where necessary Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate

	Explore how things work. Use one-handed tools and equipment. Choose the right resources to carry out their own plan. Make comparisons between objects relating to size, length, weight and capacity.	Learn new vocabulary. Use their small motor skills to use a range of tools, competently, safely and confidently. Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. Count objects, actions and sounds.	Using their observations and ideas to suggest answers to questions. Gathering and recording data to help in answering questions, such as **tick sheets.**	Using their observations and ideas to suggest answers to questions. Gathering and recording data to help in answering questions, such as **pictographs and tally charts**.	taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Recording findings using simple scientific language, drawings, labelled diagrams, **bar charts**, and tables Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Identifying differences, similarities or changes related to simple scientific ideas and processes. Using straightforward scientific evidence to	taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Recording findings using simple scientific language, drawings, labelled diagrams, **keys**, bar charts, and tables Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Identifying differences, similarities or changes related to simple scientific ideas and processes. Using straightforward scientific evidence to	repeat readings when appropriate Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and l**ine graphs**. Using test results to make predictions to set up further comparative and fair tests 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 Identifying scientific evidence that has been used to support or refute ideas or arguments	Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, **scatter graphs**, bar and line graphs Using test results to make predictions to set up further comparative and fair tests 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 Identifying scientific evidence that has been used to support or refute ideas or arguments

					answer questions or to support their findings.	answer questions or to support their findings		