



Science progression of skills

	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animals including Humans	<p>Recognise self in baby photographs and relate simple family stories about babyhood.</p> <p>Understands the key features of the life cycle of an animal.</p> <p>Is able to make healthy choices about food, drink, activity and toothbrushing.</p>	<p>Describes what he/she can see, hear and feel whilst outside</p> <p>Knows and can talk about the different factors that support his/her overall health and wellbeing; regular physical activity</p> <p>Knows and can talk about the different factors that</p>	<p>Identify and name a variety of common animals including fish, amphibians, birds, reptiles and mammals.</p> <p>Group animals according to what they eat.</p> <p>Identify and name a variety of common</p>	<p>Understand that animals, including humans, have offspring which grow into adults.</p> <p>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</p>	<p>Identify that animals, including humans, need the right types and amounts 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,</p>	<p>Describe the simple functions of the basic parts of the digestive system in humans.</p> <p>Identify the different types of teeth in humans and their simple functions.</p> <p>Construct and interpret a variety of food chains, identifying producers,</p>	<p>Describe the changes as humans develop to old age.</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>Describe the ways in which nutrients and</p>

		<p>support his/her overall health and wellbeing; healthy eating</p> <p>Knows and can talk about the different factors that support his/her overall health and wellbeing; toothbrushing</p> <p>Knows and can talk about the different factors that support his/her overall health and wellbeing; sensible amounts of 'screen time'</p> <p>Knows and can talk about the different factors that support</p>	<p>animals that are carnivores, herbivores and omnivores.</p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, birds, reptiles 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</p>	<p>right amounts of different types of food, and hygiene.</p>	<p>protection and movement.</p>	<p>predators and prey.</p>		<p>water are transported within animals, including humans</p>
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		<p>his/her overall health and wellbeing; having a good sleep routine</p> <p>Knows and can talk about the different factors that support his/her overall health and wellbeing; being a safe pedestrian</p> <p>Manages his/her own basic hygiene and personal needs including dressing and going to the toilet and understand the importance of healthy food choices (ELG)</p>	<p>with each sense.</p>					
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		Explores the natural world around him/her, making observations and drawing pictures of animals (ELG)						
Earth and 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	
							Describe the Sun, Earth and Moon as approximately spherical bodies	
							Use the idea of the Earth's rotation to	

							explain day and night and the apparent movement of the sun across the sky	
Electricity						<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 bulb will light in a simple series circuit, based on whether or not the lamp is part of a</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</p>

						<p>complete loop with a battery.</p> <p>Recognise some common conductors and insulators, and associate metals with being good conductors.</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>simple circuit in a diagram</p>
<p>Evolution and Inheritance</p>	<p>Is beginning to make sense of his/her own life-story and his/her family's history.</p> <p>Name family members in photographs</p>							<p>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the</p>

								<p>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	Explores and talks about different forces he/she can feel.				<p>Compare how things move on different surfaces.</p> <p>Notice that some forces need contact</p>		<p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the</p>	

				<p>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>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>	
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					Predict whether two magnets will attract or repel each other, depending on which poles are facing			
Light					<p>Recognise that he/she needs 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 eyes</p> <p>Recognise that shadows are formed when the light from a</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>

					light source is blocked by a solid object			Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them
					Find patterns in the way that the size of shadows change			
Living things and their habitats	Engage in joint attention with adults for short periods of time in respectful observations of living things. Is beginning to understand the need to respect and care for the natural environment and all living things. Respond appropriately to adult guidance to treat living things with care	Explores the natural world around him/her Recognises some environments that are different to the one in which he/she lives Knows some similarities and differences between the natural world around him/her and contrasting environments,		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		Recognise that living things can be grouped in a variety of ways 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 and have an	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.	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

		drawing on his/her experiences and what has been read in class (ELG)		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		impact on living things		
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<p>Materials</p>	<p>Uses all his/her senses in hands-on exploration of natural materials.</p> <p>Actively collects and enjoys transporting materials</p> <p>Follow adult prompts to explore simple sensory properties of everyday materials and demonstrate engagement facially or through body movement.</p> <p>Explores collections of materials with similar and/or different properties.</p> <p>Use some very simple</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</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>Describe 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 everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets</p> <p>Recognise 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</p>	
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	<p>adjectives to describe the sensory properties of everyday materials.</p> <p>Collect particular materials for a purpose.</p> <p>Talks about the differences between materials and changes he/she notices.</p> <p>Answer closed and anticipatory questions in simple adult led experiments about the properties of materials</p> <p>Actively explore properties of everyday materials through</p>		<p>the basis of their simple physical properties</p>				<p>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,</p>	
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	spontaneous experimentation narrating findings.						and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda	
Plants	Plants seeds and cares for growing plants. Understands the key features of the life cycle of a plant.	Explores the natural world around him/her, making observations and drawing pictures of plants (ELG)	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees Identify and describe the basic structure of a variety of common flowering plants,	Observe and describe how seeds and bulbs grow into mature plants Describe how plants need water, light and a suitable temperature to grow and stay healthy, and describe the impact of changing these	Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers Explore and describe the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary			

			including trees		<p>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>			
Rocks and Soils					<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</p>			

					<p>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>			
Seasonal Changes		<p>Understands the effect of changing seasons on the natural world around him/her</p> <p>Understands some important processes and changes in the natural world around him/her, including the seasons</p>	<p>Observe changes across the four seasons</p> <p>Observe and describe weather associated with the seasons and how day length varies</p>					
Sound						Identify how sounds are made, associating		

						<p>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</p>		
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						source increases		
States of Matter		Understands some important processes and changes in the natural world around him/her, including changing states of matter (ELG)				<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>Identify the part played by evaporation and condensation in the water cycle and associate the</p>		

						rate of evaporation with temperature		
Working Scientifically	<p>Talks about what he/she sees, using a wide vocabulary.</p> <p>Understand 'why' questions like: 'Why do you think the caterpillar got so fat?'</p>	<p>Learns new vocabulary</p> <p>Makes comments about what he/she has heard and asks questions to clarify his/her understanding (ELG)</p> <p>Asks questions to find out more and to check he/she understands what has been said to him/her</p> <p>Is able to articulate his/her ideas and thoughts in well-</p>	<p>Ask simple questions and recognise that they can be answered in different ways (Y1 focus)</p> <p>Use simple equipment to observe closely (Y1 focus)</p> <p>Perform simple tests (Y1 focus)</p> <p>Identify and classify (Y1 focus)</p> <p>Use his/her observations and ideas to suggest</p>	<p>Ask simple questions and recognise that they can be answered in different ways including use of scientific language from NC (Y2 focus)</p> <p>Use simple equipment to observe closely including changes over time (Y2 focus)</p> <p>Communicate his/her ideas, what he/she does and what he/she finds out in a</p>	<p>Ask relevant questions and use different types of scientific enquiries to answer them. (Y3 focus)</p> <p>Set up simple practical enquiries, comparative and fair tests (Y3 focus)</p> <p>Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including</p>	<p>Ask relevant questions and use different types of scientific enquiries to answer them. (Y4 focus)</p> <p>Set up simple practical enquiries, comparative and fair tests (Y4 focus)</p> <p>Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including</p>	<p>Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary (Y5 focus)</p> <p>Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate (Y5 focus)</p>	<p>Plan different types of scientific enquiries to answer their own or others questions, including recognising and controlling variables where necessary (Y6 focus)</p> <p>Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate (Y6 focus)</p>

		<p>formed sentences</p> <p>Is able to describe events in some detail</p> <p>Uses talk to help work out problems and organise thinking and activities, explaining how things work and why things might happen</p> <p>Uses new vocabulary in different contexts</p>	<p>answers to questions (Y1 focus)</p> <p>Gather and record data to help in answering questions (Y1 focus)</p>	<p>variety of ways</p> <p>Perform simple comparative tests (Y2 focus)</p> <p>Identify, group and classify (Y2 focus)</p> <p>Use his/her observations and ideas to suggest answers to questions noticing similarities, differences and patterns (Y2 focus)</p> <p>Gather and record data to help in answering questions including from</p>	<p>thermometers and data loggers (Y3 focus)</p> <p>Gather, record, classify and present data in a variety of ways to help in answering questions (Y3 focus)</p> <p>Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables (Y3 focus)</p> <p>Report on findings from enquiries, including oral and written explanations, displays or presentations</p>	<p>thermometers and data loggers (Y4 focus)</p> <p>Gather, record, classify and present data in a variety of ways to help in answering questions (Y4 focus)</p> <p>Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables (Y4 focus)</p> <p>Report on findings from enquiries, including oral and written explanations, displays or presentations</p>	<p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs (Y5 focus)</p> <p>Use test results to make predictions to set up further comparative and fair tests (Y5 focus)</p> <p>Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of</p>	<p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs (Y6 focus)</p> <p>Use test results to make predictions to set up further comparative and fair tests (Y6 focus)</p> <p>Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results,</p>
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				<p>secondary sources of information (Y2 focus)</p>	<p>of results and conclusions (Y3 focus)</p> <p>Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions (Y3 focus)</p> <p>Identify differences, similarities or changes related to simple scientific ideas and processes (Y3 focus)</p> <p>Use straightforward scientific evidence to answer questions or to</p>	<p>of results and conclusions (Y4 focus)</p> <p>Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions (Y4 focus)</p> <p>Identify differences, similarities or changes related to simple scientific ideas and processes (Y4 focus)</p> <p>Use straightforward scientific evidence to answer questions or to</p>	<p>trust in results, in oral and written forms such as displays and other presentations (Y5 focus)</p> <p>Identify scientific evidence that has been used to support or refute ideas or arguments (Y5 focus)</p>	<p>in oral and written forms such as displays and other presentations (Y6 focus)</p> <p>Identify scientific evidence that has been used to support or refute ideas or arguments (Y6 focus)</p> <p>Describe and evaluate their own and other people's scientific ideas related to topics in NC (including ideas that have changed over time), using evidence from a range of sources.</p> <p>Group and</p>
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					support his/her findings (Y3 focus)	support his/her findings (Y4 focus)		classify things and recognise patterns Find things out using a wide range of secondary sources of information. Use appropriate scientific language and ideas from NC to explain, evaluate and communicate his/her methods and findings.
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