

Science Progression and Skills Document

Materials										
EYFS	Year 1		Year 2		Year 3	Year 4		Year 5		Year 6
	Nationals Curriculum expectations	Working scientifically	Nationals Curriculum expectations)	Working scientifically		Nationals Curriculum expectations	Working scientifically)	Nationals Curriculum expectations	Working scientifically	
Describe their immediate environment using knowledge from observation, discussion, stories, non-fiction texts and maps. 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.	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	Identify and classify Use observations to suggest answers to questions. Asking simple questions and recognising that they can be answered in different ways.	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.	Identify and classify. Use observations to suggest answers to questions Performing simple tests		Compare and group materials together, according to whether they are solids, liquids or gases. 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) Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature	Asking relevant questions and using different types of scientific enquiries to answer them. Setting up simple practical enquiries, comparative and fair tests. Gathering and recording findings using simple scientific language, drawings and labelled diagrams. Identifying differences, similarities or changes related to simple scientific ideas and processes Using straightforward scientific evidence to answer questions or to support their findings.	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. 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 and 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.	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations. Using test results to make predictions to set up further comparative and fair tests. Identifying scientific evidence that has been used to support or refute ideas or arguments.	

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Plants									
EYFS	Year 1		Year 2		Year 3		Year 4	Year 5	Year 6
Early Learning Goals	National Curriculum Expectations	Working Scientifically	National Curriculum Expectations	Working Scientifically	National Curriculum Expectations	Working Scientifically			
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.	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, including trees.	Observing closely, using simple equipment.	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	Observing closely, using simple equipment Performing simple tests Using their observations and ideas to suggest answers to questions. Gathering and recording data to help in answering questions.	Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers 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 Investigate the way in which water is transported within plants Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal	Asking relevant questions and using different types of scientific enquiries to answer them Setting up simple practical enquiries, comparative and fair tests Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions Using straightforward scientific evidence to answer questions or to support their findings. Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.	Not taught in Y4	Not taught in Y5	Not taught in Y6

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Living Things and Their Habitats										
EYFS	Year 1	Year 2		Year 3	Year 4		Year 5		Year 6	
Early Learning Goals		National Curriculum Statements	Working Scientifically		National Curriculum Statements	Working Scientifically	National Curriculum Statements	Working Scientifically	National Curriculum Statements	Working Scientifically
Begin to understand the need to respect and care for the natural environment and all living things.		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	Identifying and classifying. Using their observations and ideas to suggest answers to questions.		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 to living things	Asking relevant questions and using different types of scientific enquiries to answer them Making systematic and careful observations. Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. Using straightforward scientific evidence to answer questions or to support their findings	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	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of results, in oral and written forms such as displays and other presentations Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Identifying scientific evidence that has been used to support or refute ideas or arguments.	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. Give reasons for classifying plants and animals based on specific characteristics.	Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, and bar and line graphs. Identifying scientific evidence that has been used to support or refute ideas or arguments.

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Animals Including Humans												
EYFS	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
Early Learning Goals	National Curriculum Statements	Working Scientifically	National Curriculum Statements	Working Scientifically	National Curriculum Statements	Working Scientifically	National Curriculum Statements)	Working Scientifically	National Curriculum Statements)	Working Scientifically	National Curriculum Statements	Working Scientifically
Explore the natural world around them, making observations and drawing pictures of animals and plants. Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices. Talk about members of their immediate family and community. Name and describe people who are familiar to them. Recognise some environments that are different to the one in which they live.	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. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets). Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense	<i>Observing closely, using simple equipment.</i> Using their observations and ideas to suggest answers to questions.	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	Asking simple questions and recognising that they can be answered in different ways. Using their observations and ideas to suggest answers to questions. Gathering and recording data to help in answering questions. Performing simple tests.	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	Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. Asking relevant questions and using different types of scientific enquiries to answer them. Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. Identifying differences, similarities or changes related to simple scientific ideas and processes.	Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions. Construct and interpret a variety of food chains, identifying producers, predators and prey.	Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. Asking relevant questions and using different types of scientific enquiries to answer them Setting up simple practical enquiries, comparative and fair tests Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables Using straightforward	Describe the changes as humans develop to old age. Taking measurements, using a range of scientific equipment, with increasing accuracy and precision Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, and bar and line graphs	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.	Taking measurements, using a range of scientific equipment, with increasing accuracy and precision 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 a degree of trust in results, in oral and written forms such as displays and other presentations.	

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								scientific evidence to answer questions or to support their findings.				Identifying scientific evidence that has been used to support or refute ideas or arguments
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Understanding our World - Seasonal Changes/ Earth and Space/ Rocks/ Evolution									
EYFS	Year 1		Year 2	Year 3		Year 4	Year 5		Year 6
Early Learning Goals	Nationals Curriculum Statements	Working Scientifically		Nationals Curriculum Statements	Working Scientifically		Nationals Curriculum Statements	Working Scientifically	Nationals Curriculum Statements
Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.	Observe changes across the 4 seasons Observe and describe weather associated with the seasons and how day length varies.	Observing closely, using simple equipment using their observations and ideas to suggest answers to questions Gathering and recording data to help in answering questions Identifying and classifying		Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties Describe in simple terms how fossils are formed when things that have lived are trapped within rock Recognise that soils are made from rocks and organic matter	Asking relevant questions and using different types of scientific enquiries to answer them Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Using straightforward scientific evidence to answer questions or to support their findings.		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.	Recording data and results of increasing complexity using scientific diagrams. Identifying scientific evidence that has been used to support or refute ideas or arguments	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.
									Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary 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 a 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.

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			Light and Sound						
EYFS	Year 1	Year 2	Year 3		Year 4		Year 5	Year 6	
			National Curriculum Statements	Working Scientifically	National Curriculum Statements	Working Scientifically		National Curriculum Statements	Working Scientifically
			Recognise that they need light in order to see things and that dark is the absence of Light.	Asking relevant questions and using different types of scientific enquiries to answer them.	Identify how sounds are made, associating some of them with something vibrating	Asking relevant questions and using different types of scientific enquiries to answer them setting up simple practical enquiries, comparative and fair tests.		Recognise that light appears to travel in straight lines	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
			Notice that light is reflected from surfaces.	setting up simple practical enquiries, comparative and fair tests.	Recognise that vibrations from sounds travel through a medium to the ear	Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.		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	Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
			Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.	Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.	Find patterns between the pitch of a sound and features of the object that produced it	Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.		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	Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations.
			Recognise that shadows are formed when the light from a light source is blocked by an opaque object.	Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.	Find patterns between the volume of a sound and the strength of the vibrations that produced it	Using straightforward scientific evidence to answer questions or to support their findings.		Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	Identifying scientific evidence that has been used to support or refute ideas or arguments.
			Find patterns in the way that the size of shadows change.		Recognise that sounds get fainter as the distance from the sound source increases.				

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Forces and Magnets								
EYFS	Year 1	Year 2	Year 3		Year 4	Year 5		Year 6
Early Learning Goals	Not taught in Y1	Not taught in Y2	National Curriculum Statements	Working Scientifically	Not taught in Y4	National Curriculum Statements	Working Scientifically	Not taught in Y6
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. Explore the natural world around them.			Compare how things move on different surfaces Notice that some forces need contact between two objects, but magnetic forces can act at a distance Observe how magnets attract or repel each other and attract some materials and not others Compare and group together everyday materials on whether they are attracted to a magnet Describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing.	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, 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. Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusion. Identifying differences, similarities or changes related to simple scientific ideas and processes. Using straightforward scientific evidence to answer questions or to support their findings.		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.	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 repeat readings when appropriate. 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.	

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Electricity						
Year R	Year 1	Year 2	Year 3	Year 4		Year 5
				National Curriculum Statements	Working Scientifically	Year 6
						National Curriculum statements
						Working Scientifically
Not taught until Year 3.				Identify common appliances that run on electricity	Asking relevant questions and using different types of scientific enquiries to answer them setting up simple practical enquiries, comparative and fair tests.	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
				Construct a simple series circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers	Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.	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
				Identify whether or not a lamp will light in a simple circuit, based on whether the lamp is part of a complete loop with a battery.	Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.	Use recognised symbols when representing a simple circuit in a diagram.
				Recognise that a switch opens/closes a circuit and associate this with whether a lamp lights in a circuit.	Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
				Recognise some common conductors and insulators, and associate metals with being good conductors.	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.	Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graph.
					Identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings.	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 a 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.