Year Group						
EYFS Preamble	**Understanding of the World** Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children's personal experiences increases their knowledge and sense of the world around them – from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Enriching and widening children's vocabulary will support later reading comprehension.					
	Early Learning Goals and Descriptors *(Corresponding to National Curriculum)*					
	The Natural World (Making Observations)	Listening, attention and understanding (Ask Questions)	Speaking (Ask Questions)	Self Regulation (Perform Tests)	The Natural World (Perform Tests)	The Natural World (Use Equipment)
R	Children explore the natural world around them, making observations and drawing pictures of animals and plants. Children know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences with what they have read in class. Children understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.	Children listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and small group interactions. Children make comments about what they have heard and ask questions to clarify their understanding.	Children offer explanations for why things might happen, making use of recently introduced vocabulary.	Children set and work towards simple goals, being able to wait for what they want and control their immediate impulses when appropriate.	Children understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.	Children explore the natural world around them, making observations and drawing pictures of animals and plants.

Year 1 NC preamble	The principal focus of science teaching in key stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about science should be done through the use of first-hand practical experiences, but there should also be some use of appropriate secondary sources, such as books, photographs and videos. 'Working scientifically' is described separately in the programme of study, but must always be taught through and clearly related to the teaching of substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content. Pupils should read and spell scientific vocabulary at a level consistent with their increasing word-reading and spelling knowledge at key stage 1.				
	Scientific Skills	Scientific Knowledge			
		Animals, including Humans	Everyday Materials	Plants	Seasonal Changes
1	Children start to ask simple questions. Children can perform simple tests with support. Children can record and gather data to help in the answering of questions, simply using words and pictures. Children start to make close observations. Children begin to use their observations and ideas to suggest answers to simple scientific questions. Children begin to identify, classify and group objects, materials and living things based on their features, with support. Children can begin to recognise patterns and relationships, with guidance.	Children can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Children can identify and name a variety of common animals that are carnivores, herbivores and omnivores. Children describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets). Children identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	Children can distinguish between an object and the material from which it is made. Children can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. Children can describe the simple physical properties of a variety of everyday materials. Children can compare and group together a variety of everyday materials on the basis of their simple physical properties.	Children can identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Children can identify and describe the basic structure of a variety of common flowering plants, including trees.	Children can observe changes across the 4 seasons. Children can observe and describe weather associated with the seasons and how day length varies.

Year 2 NC Preamble	The principal focus of science teaching in key stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about science should be done through the use of first-hand practical experiences, but there should also be some use of appropriate secondary sources, such as books, photographs and videos. 'Working scientifically' is described separately in the programme of study, but must always be taught through and clearly related to the teaching of substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content. Pupils should read and spell scientific vocabulary at a level consistent with their increasing word-reading and spelling knowledge at key stage 1.				
	Scientific Skills	Scientific Knowledge			
		Animals, including Humans	Living Things in their Habitat	Plants	Uses of Everyday Materials
2	Children can ask simple questions and recognise they can be answered in different ways, including the use of scientific language. Children can perform simple tests. Children can record and gather data to help in the answering of questions, using diagrams, words and charts, including from secondary sources of information. Children can make close observations, using simple equipment. Children can use observations and ideas to suggest answers to questions. Children can gather and record data, by using simple measurements and equipment (e.g. hand lenses and egg timers) to help in answering questions. Children can identify, classify and group objects, materials and living things based on their features.	Children can notice that animals, including humans, have offspring which grow into adults. Children can find out about and describe the basic needs of animals, including humans, for survival (water, food and air). Children can describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	Children can explore and compare the differences between things that are living, dead, and things that have never been alive. Children can 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. Children can identify and name a variety of plants and animals in their habitats, including microhabitats. Children can 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.	Children can observe and describe how seeds and bulbs grow into mature plants. Children can find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	Children can identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Children can find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

Year 3 NC Preamble	The principal focus of science teaching in lower key stage 2 is to enable pupils to broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out. 'Working scientifically' is described separately at the beginning of the programme of study, but must always be taught through and clearly related to substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content. Pupils should read and spell scientific vocabulary correctly and with confidence, using their growing word-reading and spelling knowledge.					
	Scientific Skills	Scientific Knowledge				
		Animals, including Humans	Forces and Magnets	Light	Plants	Rocks
3	Children can ask relevant questions and use different types of scientific enquiries to answer them e.g. practical tests and secondary sources. Children can set up simple practical enquiries, comparative and fair tests. Draw simple conclusions, make predictions and suggest improvements. Children can gather, record and present data in a variety of ways to help in answering questions. Children begin to develop the skills of making systematic and careful observations, using a range of equipment to measure accurately. Children can identify differences, similarities or changes related to simple scientific ideas and processes. Children can record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.	Children can 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. Children can identify that humans and some other animals have skeletons and muscles for support, protection and movement.	Children can compare how things move on different surfaces. Children can notice that some forces need contact between 2 objects, but magnetic forces can act at a distance. Children can observe how magnets attract or repel each other and attract some materials and not others. Children can 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. Children can describe magnets as having 2 poles. Children can predict whether 2 magnets will attract or repel each other, depending on which poles are facing.	Children can recognise that they need light in order to see things and that dark is the absence of light. Children can notice that light is reflected from surfaces. Children can recognise that light from the sun can be dangerous and that there are ways to protect their eyes. Children can recognise that shadows are formed when the light from a light source is blocked by an opaque object. Children can find patterns in the way that the size of shadows change.	Children can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. Children can 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. Children can investigate the way in which water is transported within plants. Children can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	Children can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. Children can describe in simple terms how fossils are formed when things that have lived are trapped within rock. Children can recognise that soils are made from rocks and organic matter.

Year 4 NC preamble	The principal focus of science teaching in lower key stage 2 is to enable pupils to broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out. 'Working scientifically' is described separately at the beginning of the programme of study, but must always be taught through and clearly related to substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content. Pupils should read and spell scientific vocabulary correctly and with confidence, using their growing word-reading and spelling knowledge.					
	Scientific Skills	Scientific Knowledge				
		Animals, including Humans	Electricity	Living Things and their Habitat	Sound	States of Matter
4	Children can ask relevant questions and select the most appropriate types of scientific enquiries and evidence to answer questions or to support their findings. Children can suggest, set up and carry out simple practical enquiries, comparative and fair tests. Draw simple conclusions, make predictions and suggest improvements. Children can gather, record, classify and present data in a wide variety of ways to help in answering questions. Children can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Children can make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a wide range of	Children can describe the simple functions of the basic parts of the digestive system in humans. Children can identify the different types of teeth in humans and their simple functions. Children can construct and interpret a variety of food chains, identifying producers, predators and prey.	Children can identify common appliances that run on electricity. Children can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Children can 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. Children can recognise that a switch opens and closes a circuit and associate this with whether or not a lamp	Children can recognise that living things can be grouped in a variety of ways. Children can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. Children can recognise that environments can change and that this can sometimes pose dangers to living things.	Children can identify how sounds are made, associating some of them with something vibrating. Children can recognise that vibrations from sounds travel through a medium to the ear. Children can find patterns between the pitch of a sound and features of the object that produced it. Children can find patterns between the volume of a sound and the	Children can compare and group materials together, according to whether they are solids, liquids or gases. Children can 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). Children can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

	equipment, including thermometers and data loggers. Children can identify differences, similarities or changes related to simple scientific ideas and processes. Children can record findings using accurate scientific language, drawings, labelled diagrams, keys, bar charts and tables.		lights in a simple series circuit. Children can recognise some common conductors and insulators, and associate metals with being good conductors.		strength of the vibrations that produced it. Children recognise that sounds get fainter as the distance from the sound source increases.	

Year 5 NC Preamble	The principal focus of science teaching in upper key stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They should also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Pupils should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings. 'Working and thinking scientifically' is described separately at the beginning of the programme of study, but must always be taught through and clearly related to substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content. Pupils should read, spell and pronounce scientific vocabulary correctly.					
	Scientific Skills	Scientific Knowledge				
		Animals. including Humans	Earth and Space	Forces	Living Things and their Habitat	Properties and Changes of Materials
5	Children can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary, and decide which observations to make. Children can take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Children can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. Children can look for different causal relationships in their data and identify evidence that refutes or supports their ideas. Children can use tests results to make predictions to set up further comparative and fair tests.	Children can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Children can recognise the impact of diet and exercise on the way their bodies function. Children can describe the ways in which nutrients and water are transported within animals, including humans.	Children can describe the movement of the Earth and other planets relative to the sun in the solar system. Children can describe the movement of the moon relative to the Earth. Children can describe the sun, Earth and moon as approximately spherical bodies. Children can use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	Children can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Children can identify the effects of air resistance, water resistance and friction, that act between moving surfaces. Children can recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.	Children can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Children can describe the life process of reproduction in some plants and animals.	Children can compare and group together everyday materials on the basis of their properties, including their hardness, solubility and transparency. Children know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. Children can use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through

	Children can report and present 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. Children can identify scientific evidence that has been used to support or refute ideas or arguments.					filtering, sieving and evaporating. Children can give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. Children can demonstrate that dissolving, mixing and changes of state are reversible changes. Children can 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.

Year 6 NC Preamble	The principal focus of science teaching in upper key stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They should also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Pupils should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings. 'Working and thinking scientifically' is described separately at the beginning of the programme of study, but must always be taught through and clearly related to substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content. Pupils should read, spell and pronounce scientific vocabulary correctly.					
	Scientific Skills	Scientific Knowledge				
		Animals, including Humans	Electricity	Evolution and Inheritance	Light	Living Things and their Habitat
6	Children can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary, and raise different types of question. Children can choose the most appropriate equipment to make measurements with increasing precision and explain how to use it accurately. Take repeat measurements where appropriate. Children can make their own decisions about what observations to make, what measurements to use and how long to make them for. Children can use tests results to make predictions to set up further comparative and fair tests, explaining reasoning. Children decide how to record data and results of increasing complexity using scientific diagrams and labels,	Children can describe the changes as humans develop to old age. Children can recognise the impact of drugs and lifestyle on the way their bodies function.	Children can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. Children 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. Children can use recognised symbols when representing a simple circuit in a diagram.	Children can recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Children can recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Children can identify how animals and plants	Children can recognise that light appears to travel in straight lines. Children can 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. Children can 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. Children use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	Children can 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. Children can give reasons for classifying plants and animals based on specific characteristics.

	classification keys, tables, scatter graphs, bar and line graphs. Children can confidently report and present 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. Children can use and develop keys and other information records to identify, classify and describe living things and materials, and identify patterns that might be found in the natural environment. Children can discuss and research how scientific ideas have developed over time. Children can identify and investigate which secondary sources will be most useful to research their ideas and begin to separate opinion from fact.			are adapted to suit their environment in different ways and that adaptation may lead to evolution.		