

Nursery							Reception					
Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topics	Rhyme and Colour	Let's Celebrate!	Growth and Change		People Who Help Us	Bears, Bears, Bears!	All about Me!	Tell me a Story	The Big Wide World		Crazy Construction	Water, Water, Everywhere!
Key Texts	<p>**A range of high-quality picture books to introduce children to story time**</p> <p>Nursery Rhymes Goldilocks and the three bears The Gingerbread Man</p>	<p>The Colour Monster</p> <p>*With additional stories from Reading Long Term Plan</p>	<p>The Very Hungry Caterpillar Jack and the Beanstalk The Enormous Turnip How to grow a dinosaur</p>		<p>Range of non-fiction texts</p>	<p>Everywhere Bear We're Going on a Bear Hunt Paddington</p>	<p>**A range of high-quality picture books to introduce children to Reception story time**</p> <p>How to fill a bucket Only one me Unicorn ...</p>	<p>Supatato The Day the Crayons Quit</p> <p>*With additional stories from Reading Long Term Plan</p>	<p>How to catch a star Aliens love Underpants Whatever Next Little Red Riding Hood</p>		<p>Three Little Pigs Katie in London The Royal Family</p>	<p>Billies Bucket Someone swallowed Stanley Finding Nemo Tiddler Rainbow Fish</p>
UTW	<p>*Use all their senses in hands on exploration of natural materials.</p> <p>*Explore collections of materials with similar and/or different properties.</p>	<p>*Begin to make sense of their own life-story and family's history.</p> <p>*Continue to develop positive attitudes about the differences between people.</p>	<p>*Plant seeds and care for growing plants.</p> <p>*Understand the key features of the life cycle of a plant and animal.</p> <p>*Begin to understand the need to respect and care for the natural environment.</p> <p>*Talk about the differences between materials and changes they notice.</p>		<p>*Show an interest in different occupations.</p> <p>*Explore how things work.</p> <p>*Explore and talk about different forces they feel.</p>	<p>*Know that there are different countries in the world and talk about the differences they have experienced or seen in photos.</p>	<p>*Talk about members of their immediate family and community.</p> <p>*Name and describe people who are familiar to them.</p> <p>*Understand the effect of changing seasons on the natural world around them.</p> <p>*Describe what they see, hear and feel whilst they are outside.</p>	<p>*Compare and contrast characters from stories, including figures from the past.</p> <p>*Recognise that people have different beliefs and celebrate special times in different ways.</p> <p>*Understand that some places are special to members of their community.</p>	<p>*Recognise some environments that are different to the one in which they live.</p> <p>*Explore the natural world around them.</p> <p>*Draw simple information from a map.</p>		<p>*Comment on images of familiar situations in the past.</p>	<p><u>The Natural World</u></p> <p>*Explore the natural world around them, making observations and drawing pictures of animals and plants.</p> <p>* 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.</p> <p>*Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>

Loxdale Primary School Skills Progression



Subject Area: Science

National Curriculum Objectives.

Lower KS1

Working scientifically

During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- Asking simple questions and recognising that they can be answered in different ways
- Observing closely, using simple equipment
- Performing simple tests
- Identifying and classifying
- Using their observations and ideas to suggest answers to questions
- Gathering and recording data to help in answering questions

Lower KS2

Working scientifically

During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- 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
- 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 answer questions or to support their findings.

Upper KS2

Working scientifically

During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- 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
- 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 argument.

Year One	Working Scientifically	Animals including humans	Everyday materials	Plants	Seasonal changes
	<p>During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <p>Children will ask simple questions and recognise that they can be answered in different ways.</p> <p>Children will observe closely, using simple equipment.</p> <p>Children will perform simple tests.</p> <p>Children will identify and classify.</p> <p>Children will use their observations and ideas to suggest answers to questions.</p> <p>Children will gather and record data to help in answer questions.</p>	<p>Children will identify and name a variety of common British animals that are birds, fish, amphibians, reptiles, mammals and invertebrates.</p> <p>Children will identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>Children will describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles, mammals and invertebrates, and including pets).</p> <p>Children will identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p>	<p>Children will distinguish the between an object and the material from which it is made.</p> <p>Children will identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</p> <p>Children will describe the simple physical properties of a variety of everyday materials.</p> <p>Children will compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>	<p>Children will identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</p> <p>Children will identify and describe the basic structure of a variety of common flowering plants, including trees.</p>	<p>Children will observe changes across the four seasons.</p> <p>Children will observe and describe weather associated with the seasons and how day length varies.</p>

Year Two	Working Scientifically	Living things and their habitats	Animals including humans	Plants	Use of everyday materials
	<p>During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <p>Children can ask simple questions and recognise that they can be answered in different ways</p> <p>Children can observe closely, using simple equipment</p> <p>Children can perform simple tests</p> <p>Children can identify and classify</p> <p>Children can use their observations and ideas to suggest answers to questions</p> <p>Children can gather and record data to help answer questions</p>	<p>Children can explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>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</p> <p>Children can identify and name a variety of plants and animals in their habitats, including micro-habitats</p> <p>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.</p>	<p>Children know that animals, including humans, have offspring which grow into adults</p> <p>Children can describe the basic needs of animals, including humans, for survival</p> <p>Children can describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>	<p>Children can observe and describe how seeds and bulbs grow into mature plants</p> <p>Children can find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p>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</p> <p>Children can find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>

Year 3	Working Scientifically	Animals including humans	Forces and magnets	Plants	Light	Rocks
	<p>During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <p>Children can ask relevant questions and uses different types of scientific enquiries to answer them</p> <p>Children can set up simple practical enquiries, comparative and fair tests</p> <p>Children can make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <p>Children can gather, record, classify and present data in a variety of ways to help in answering questions</p> <p>Children can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p> <p>Children can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</p>	<p>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</p> <p>Children can identify that humans and some animals have skeletons and muscles for support, protection and movement.</p>	<p>Children can compare how things move on different surfaces</p> <p>Children can notice that some forces need contact between two objects, but magnetic forces can act at a distance</p> <p>Children can observe how magnets attract or repel each other and attract some materials and not others</p> <p>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</p> <p>Children can describe magnets as having two poles</p> <p>Children can predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>	<p>Children can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <p>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</p> <p>Children can investigate the way in which water is transported within plants</p> <p>Children can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	<p>Children can recognise that they need light in order to see things and that dark is the absence of light</p> <p>Children can notice that light is reflected from surfaces</p> <p>Children can recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>Children can recognise that shadows are formed when the light from a light source is blocked by an opaque object</p> <p>Children can find patterns in the way that the size of shadows change.</p>	<p>Children can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>Children can describe in simple terms how fossils are formed when things that have lived are trapped within rock</p> <p>Children can recognise that soils are made from rocks and organic matter.</p>

Children can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.

Children can identify differences, similarities or changes related to simple scientific ideas and processes.

Children can use straightforward scientific evidence to answer questions or to support their finding.

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Year 4	Working Scientifically	Living things and their habitats	Animals including humans	Electricity	Sounds	States of matter
	<p>During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> • Children can ask relevant questions and use different types of scientific enquiries to answer them • Children can set up simple practical enquiries, comparatives and fair tests • Children can make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • Children can gather, record, classify and present data in a variety of ways to help in answering questions • Children can record findings using simple scientific language, 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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 lights in a simple series circuit. • Children can recognise some common conductors and insulators, and associate metals with being good conductors. 	<ul style="list-style-type: none"> • 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 strength of the vibrations that produced it • Children can recognise that sounds get fainter as the distance from the sound source increases. 	<ul style="list-style-type: none"> • 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.

	<p>drawings, labelled diagrams, keys, bar charts, and tables</p> <ul style="list-style-type: none">• Children can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions• Children can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions• Children can identify differences, similarities or changes related to simple scientific ideas and processes• Children can use straightforward scientific evidence to answer questions or to support their findings.					
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Year 5	Working Scientifically	Living things and their habitats	Earth and Space	Properties and changes of materials	Animals including humans	Forces
	<p>During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> • Children can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • 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 use test results to make predictions 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Children can compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets • 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 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 	<ul style="list-style-type: none"> • Children can describe the changes as humans develop from birth to old age. 	<ul style="list-style-type: none"> • 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.

	<p>to set up further comparative and fair tests</p> <ul style="list-style-type: none">• Children can report and present 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• Children can identify scientific evidence that has been used to support or refute ideas or arguments.			<ul style="list-style-type: none">• 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.		
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Year 6	Working Scientifically	Animals including humans	Living things and their habitats	Electricity	Light	Evolution and inheritance
	<p>During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> • Children can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • 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 use test results to make predictions to set up further 	<ul style="list-style-type: none"> • 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, exercise, drugs and lifestyle on the way their bodies function • Children can describe the ways in which nutrients and water are transported within animals, including humans. 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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 can 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. 	<ul style="list-style-type: none"> • 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 can use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. 	<ul style="list-style-type: none"> • 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 are adapted to suit their environment in different ways and that adaptation may lead to evolution.

	<p>comparative and fair tests</p> <ul style="list-style-type: none">• Children can report and present 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• Children can identify scientific evidence that has been used to support or refute ideas or arguments.					
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