

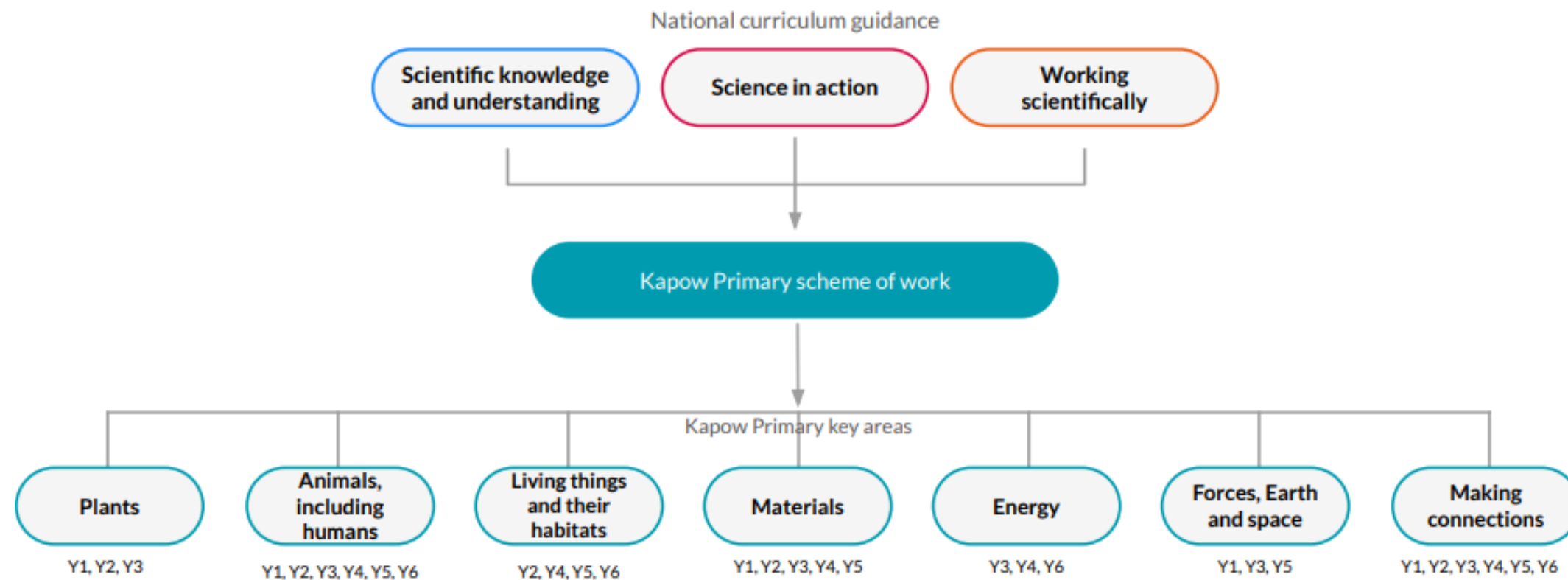
# Lea Community Primary School



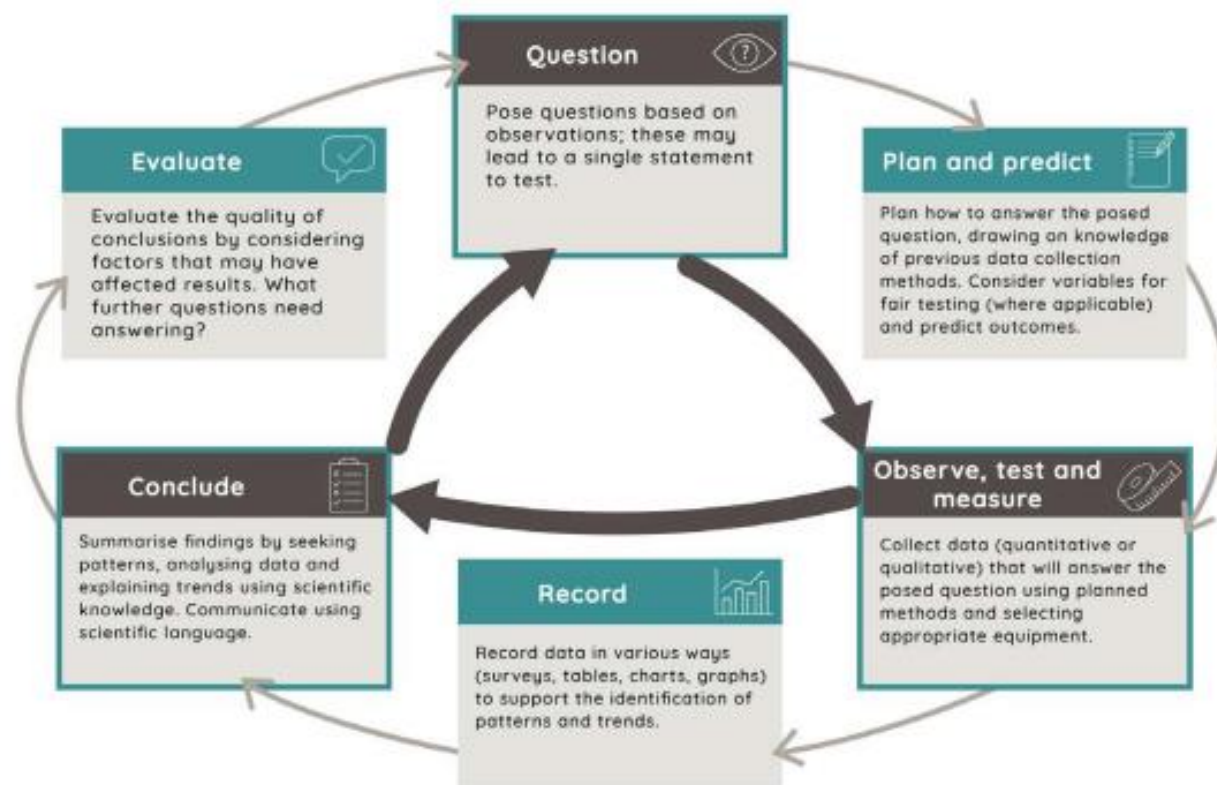
## Science Curriculum Map



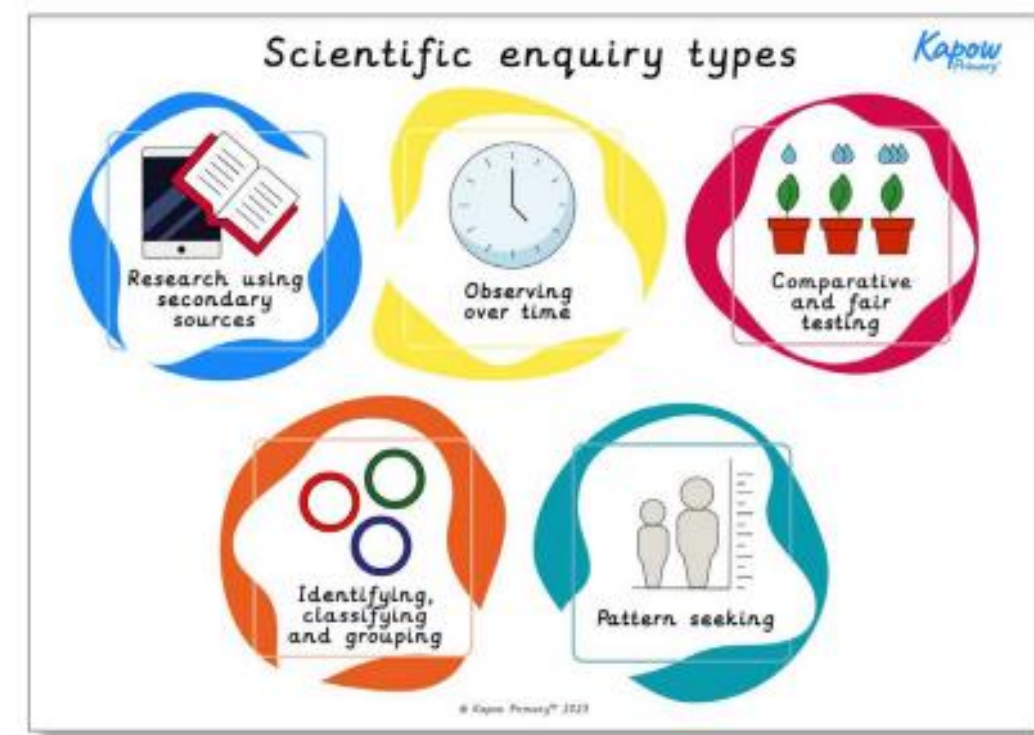
Academic year 2023-2024



### Working scientifically - Enquiry cycle



### Working scientifically - Different types of enquiry





	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>EYFS</b>	<p>All about me</p> <p><b>My Body</b> Simple body parts Our senses Healthy eating</p> <p><b>Seasons</b> Autumn</p>	<p>People who help us</p> <p><b>Seasonal changes</b> Exploring day and night Weather Winter Water freezing</p> <p>(Look at a famous scientist- Little People, Big Dreams: Women in Science)</p>	<p>Journeys around the world</p> <p><b>Being Healthy</b> Healthy food Healthy lifestyle</p>	<p>Space</p> <p><b>Materials</b> Naming materials Waterproof materials Exploring in nature</p> <p>(Introduction to planets in our solar system through books/ songs)</p> <p><b>Seasons</b> Spring</p>	<p>Growing/ plants</p> <p><b>Plants</b> Name common plants Planting runner beans How to take care of living things Life cycle of a chicken</p> <p><b>Seasons</b> Summer</p>	<p>Dinosaurs/ Animals</p> <p><b>Animals</b> Identifying what animals need Animals around the world</p> <p><u>Early Learning goals</u> 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. Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices. Show an understanding of their own feelings and those of others and begin to regulate their behaviour accordingly. Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>
<b>Year 1 (to be taught in this order)</b>	<p>Seasonal Changes</p> <p><u>National Curriculum</u> Observe changes across the 4 seasons. Observe and describe weather associated with the seasons and how day length varies.</p>	<p>Materials: Everyday materials</p> <p><u>National Curriculum</u> 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.</p>	<p>Animals: Sensitive bodies</p> <p><u>National Curriculum</u> 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>Animals: Comparing animals</p> <p><u>National Curriculum</u> 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).</p>	<p>Plants: Introduction to plants</p> <p><u>National Curriculum</u> 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.</p>	<p>Making Connections</p> <p>This unit aims to bring together pupils’ science learning from the other units and help them to see connections between the key areas.</p>

<b>Working Scientifically</b>	<u>National Curriculum</u> Observing closely, using simple equipment. Asking simple questions and recognising that they can be answered in different ways. Gathering and recording data to help in answering questions.	<u>National Curriculum</u> Asking simple questions and recognising that they can be answered in different ways Performing simple tests. Gathering and recording data to help in answering questions. Identifying and classifying. Observing closely, using simple equipment. Using their observations and ideas to suggest answers to questions.	<u>National Curriculum</u> Gathering and recording data to help in answering questions. Observing closely, using simple equipment. Using their observations and ideas to suggest answers to questions. Performing simple tests Asking simple questions and recognising that they can be answered in different ways. Gathering and recording data to help in answering questions.	<u>National Curriculum</u> Identifying and classifying. Gathering and recording data to help in answering questions.	<u>National Curriculum</u> Observing closely, using simple equipment. Using their observations and ideas to suggest answers to questions. Asking simple questions and recognising that they can be answered in different ways Performing simple tests. Gathering and recording data to help in answering questions.	<u>National Curriculum</u>
<b>Year 2 (to be taught in this order)</b>	Living things: Habitats  <u>National Curriculum</u> 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.	Living things: Microhabitats  <u>National Curriculum</u> 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 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.	Materials: Uses of Everyday materials  <u>National Curriculum</u> 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.	Animals: Lifecycles and Health <u>National Curriculum</u> 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.	Plant growth  <u>National Curriculum</u> 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.	Making Connections  This unit aims to bring together pupils’ science learning from the other units and help them to see connections between the key areas.  <u>National Curriculum</u>
<b>Working Scientifically</b>	<u>National Curriculum</u> Gathering and recording data to help in answering questions. Identifying and classifying. Asking simple questions and recognising that they can be answered in different ways.	<u>National Curriculum</u> Identifying and classifying. Observing closely, using simple equipment. Using their observations and ideas to suggest answers to questions. Asking simple questions and recognising that they can be answered in different ways	<u>National Curriculum</u> Identifying and classifying. Observing closely, using simple equipment. Using their observations and ideas to suggest answers to questions. Asking simple questions and recognising that they can be answered in different ways	<u>National Curriculum</u> Identifying and classifying. Observing closely, using simple equipment. Asking simple questions and recognising that they can be answered in different ways. Using their observations and ideas to suggest answers to questions.	<u>National Curriculum</u> Identifying and classifying. Observing closely, using simple equipment. Using their observations and ideas to suggest answers to questions. Asking simple questions and recognising that they can be answered in different ways	<u>National Curriculum</u>

		Performing simple tests. Gathering and recording data to help in answering questions.	Performing simple tests. Gathering and recording data to help in answering questions.	Gathering and recording data to help in answering questions.	Performing simple tests. Gathering and recording data to help in answering questions.	
<b>Year 3 (to be taught in this order)</b>	<p>Animals: Movement and Nutrition</p> <p><u>National Curriculum</u></p> <p>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.</p>	<p>Forces and magnets</p> <p><u>National Curriculum</u></p> <p>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 a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. Describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>	<p>Materials: Rocks and Soils</p> <p><u>National Curriculum</u></p> <p>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.</p>	<p>Energy: Light and Shadows</p> <p><u>National Curriculum</u></p> <p>Recognise that they need light in order to see things and that dark is the absence of light. Notice that light is reflected from surfaces. Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. Recognise that shadows are formed when the light from a light source is blocked by an opaque object. Find patterns in the way that the size of shadows change.</p>	<p>Plant Reproduction</p> <p><u>National Curriculum</u></p> <p>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.</p>	<p>Making Connections</p> <p>This unit aims to bring together pupils' science learning from the other units and help them to see connections between the key areas.</p> <p><u>National Curriculum</u></p>
<b>Working Scientifically</b>	<p><u>National Curriculum</u></p> <p>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</p>	<p><u>National Curriculum</u></p> <p>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,</p>	<p><u>National Curriculum</u></p> <p>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,</p>	<p><u>National Curriculum</u></p> <p>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,</p>	<p><u>National Curriculum</u></p> <p>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</p>	<u>National Curriculum</u>

	<p>written explanations, displays or presentations of results and conclusions.</p> <p>Identifying differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>labelled diagrams, keys, bar charts, and tables.</p> <p>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>Identifying differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>labelled diagrams, keys, bar charts, and tables.</p> <p>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Identifying differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>labelled diagrams, keys, bar charts, and tables.</p> <p>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>Identifying differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>written explanations, displays or presentations of results and conclusions.</p> <p>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>Identifying differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Using straightforward scientific evidence to answer questions or to support their findings.</p>	
<p><b>Year 4</b> <b>(to be taught in this order)</b></p>	<p>Animals: Digestion and Food</p> <p><u>National Curriculum</u> 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.</p>	<p>Electricity and Circuits</p> <p><u>National Curriculum</u> Identify common appliances that run on electricity. Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. 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. Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. Recognise some common conductors and insulators, and associate metals with being good conductors.</p>	<p>Living things: Classification and changing habitats</p> <p><u>National Curriculum</u> 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.</p>	<p>Materials: States of Matter</p> <p><u>National Curriculum</u> 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.</p>	<p>Energy: Sound and vibrations</p> <p><u>National Curriculum</u> Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Find patterns between the pitch of a sound and features of the object that produced it. Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases.</p>	<p>Making Connections</p> <p>This unit aims to bring together pupils' science learning from the other units and help them to see connections between the key areas.</p> <p><u>National Curriculum</u></p>
<p><b>Working Scientifically</b></p>	<p><u>National Curriculum</u> 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</p>	<p><u>National Curriculum</u> 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</p>	<p><u>National Curriculum</u> Asking relevant questions and using different types of scientific enquiries to answer them. Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of</p>	<p><u>National Curriculum</u> 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</p>	<p><u>National Curriculum</u> 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</p>	

	<p>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.</p> <p>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</p> <p>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>Identifying differences, similarities or changes related to simple scientific ideas and processes.</p>	<p>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.</p> <p>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</p> <p>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>Identifying differences, similarities or changes related to simple scientific ideas and processes.</p>	<p>equipment, including thermometers and data loggers. Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.</p> <p>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</p> <p>Identifying differences, similarities or changes related to simple scientific ideas and processes.</p>	<p>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.</p> <p>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</p> <p>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>Identifying differences, similarities or changes related to simple scientific ideas and processes.</p>	<p>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.</p> <p>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</p> <p>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>Identifying differences, similarities or changes related to simple scientific ideas and processes.</p>	
<p><b>Year 5</b> <b>(to be taught in this order)</b></p>	<p>Materials: Mixtures and Separation</p> <p><u>National Curriculum</u> Know 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 separated, including through filtering, sieving and evaporating.</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes.</p>	<p>Materials: Properties and Changes</p> <p><u>National Curriculum</u> 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>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.</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>Forces: Earth and Space</p> <p><u>National Curriculum</u> Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</p> <p>Describe the movement of the Moon relative to the Earth.</p> <p>Describe the Sun, Earth and Moon as approximately spherical bodies.</p> <p>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p> <p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p>	<p>Living things: Life cycles and reproduction</p> <p><u>National Curriculum</u> Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>Describe the life process of reproduction in some plants and animals.</p>	<p>Forces and Space: Imbalanced forces</p> <p><u>National Curriculum</u> Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the 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>	<p>Animals: Human Timeline/ Making Connections</p> <p>This unit aims to bring together pupils' science learning from the other units and help them to see connections between the key areas.</p> <p><u>National Curriculum</u> Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>Describe the life process of reproduction in some plants and animals.</p> <p>Describe the changes as humans develop to old age.</p>

[illegible]



	<p>Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. Identifying scientific evidence that has been used to support or refute ideas or arguments.</p>	<p>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 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</p>	<p>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. Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. Identifying scientific evidence that has been used to support or refute ideas or arguments</p>	<p>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 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</p>	<p>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 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</p>	
--	--	--	--	--	--	--