

<u>Science</u>	<u>Topic 1</u>	<u>Topic 2</u>	<u>Topic 3</u>	<u>Topic 4</u>	<u>Topic 5</u>
EYFS	<p>Understanding the World/The Natural World – Early Learning Goals</p> <ul style="list-style-type: none"> 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. 				
YEAR 1	<p>How do we see God in our world? Autumn 2 Animals including Humans</p> <p><u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> 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 	<p>Are all positions equal? Spring 2 Everyday Materials</p> <p><u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> 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>How do we see God in our world? Summer 2 Plants</p> <p><u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> 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><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> identifying and classifying 	<p>Autumn 1, Spring 1, Summer 1 Seasonal Changes</p> <p><u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> observe changes across the four seasons observe and describe weather associated with the seasons and how day length varies. <p><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> asking simple questions and recognising that they can be answered in different ways 	

	<p>mammals, including pets)</p> <ul style="list-style-type: none"> 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><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> Identifying and classifying Using their observations and ideas to suggest answers to questions 	<p><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> 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. 		<ul style="list-style-type: none"> observing closely, using simple equipment gathering and recording data to help in answering questions. 	
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<p>YEAR 2</p>	<p>Do we always appreciate what we've got? Autumn 2 Living things and their habitats</p> <p><u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> • 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 	<p>Does a share experience unite society? Spring 1 Animals including humans</p> <p><u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> • 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. <p><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> • Identifying and classifying • Using their observations and ideas to suggest answers to questions • asking simple questions and recognising that they 	<p>Is there enough for everyone? Spring 2 Uses of everyday materials</p> <p><u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> • 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 <p><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> • asking simple questions and recognising that they can be answered in different ways • observing closely, using simple equipment • performing simple tests 	<p>Is all work valuable? Summer 1 Plants</p> <p><u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> • 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. <p><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> • asking simple questions and recognising that they can be answered in different ways • observing closely, using simple equipment • performing simple tests 	
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	<p>the idea of a simple food chain, and identify and name different sources of food</p> <p><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> Identifying and classifying Using their observations and ideas to suggest answers to questions asking simple questions and recognising that they can be answered in different ways 	<p>can be answered in different ways</p> <ul style="list-style-type: none"> gathering and recording data to help in answering questions. 			
YEAR 3	<p>Are we scarring or cultivating the earth? Autumn 2 Rocks</p> <p><u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> compare and group together different kinds of rocks on the basis of their appearance and simple physical properties 	<p>Who are we called to be? Spring 1 Animals including humans</p> <p><u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they 	<p>Does God's creation cause harm? Spring 2 Light</p> <p><u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> 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 	<p>Are we all God's hands on Earth? Summer 1 Plants</p> <p><u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers 	<p>Is a culture of care possible? Summer 2 Forces and Magnets</p> <p><u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> compare how things move on different surfaces notice that some forces need contact between two objects, but

	<ul style="list-style-type: none"> 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><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> 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 identifying differences, similarities or changes related to simple scientific ideas and processes 	<p>get nutrition from what they eat</p> <ul style="list-style-type: none"> identify that humans and some other animals have skeletons and muscles for support, protection and movement. <p><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> setting up simple practical enquiries, comparative and fair tests reporting on findings from enquiries, including oral and written 	<p>magnetic forces can act at a distance</p> <ul style="list-style-type: none"> 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><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> setting up simple practical enquiries,
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		<p>variety of ways to help in answering questions</p> <ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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 	<p>explanations, displays or presentations of results and conclusions</p>	<p>comparative and fair tests</p> <ul style="list-style-type: none"> • making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
YEAR 4	<p>How is my community formed? Autumn 1 Electricity <u>Scientific Knowledge:</u></p>	<p>Are we caretakers or owners of the Earth? Autumn 2 Living things and their habitats <u>Scientific Knowledge:</u></p>	<p>Are we a global family? Spring 2 Animals including humans <u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> • describe the simple functions of the basic 	<p>Do we all have a mission? Summer 1 States of Matter <u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> • compare and group materials 	<p>Is influence long lasting? Summer 2 Sound <u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> • identify how sounds are made,

	<ul style="list-style-type: none"> 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><u>Working Scientifically Skills:</u></p>	<ul style="list-style-type: none"> 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><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> 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 	<p>parts of the digestive system in humans</p> <ul style="list-style-type: none"> 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><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> 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 identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings 	<p>together, according to whether they are solids, liquids or gases</p> <ul style="list-style-type: none"> 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><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> setting up simple practical enquiries, comparative and fair tests making systematic and careful 	<p>associating some of them with something vibrating</p> <ul style="list-style-type: none"> 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><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> setting up simple practical enquiries, comparative and fair tests making systematic and
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	<ul style="list-style-type: none"> 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 identifying differences, similarities or changes related to simple scientific ideas and processes 			<p>observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <ul style="list-style-type: none"> 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 	<p>careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <ul style="list-style-type: none"> 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
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				results and conclusions <ul style="list-style-type: none"> • using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions 	presentations of results and conclusions <ul style="list-style-type: none"> • using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
YEAR 5	Are roles within our community equally distributed? Autumn 1 Forces <u>Scientific Knowledge:</u> <ul style="list-style-type: none"> • 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, 	Do our choices really matter? Autumn 2 Earth and Space <u>Scientific Knowledge:</u> <ul style="list-style-type: none"> • 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. 	What is the difference between surviving and living? Spring 1 Living things and their habitats <u>Scientific Knowledge:</u> <ul style="list-style-type: none"> • 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. <u>Working Scientifically Skills:</u> <ul style="list-style-type: none"> • identifying scientific evidence that has been used to support or refute ideas or arguments. • recording data and results of increasing complexity using 	Can we all adapt to adverse circumstances? Spring 2 Properties and changes of materials <u>Scientific Knowledge:</u> <ul style="list-style-type: none"> • 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 	Are we all connected? Summer 2 Animals including humans <u>Scientific Knowledge:</u> <ul style="list-style-type: none"> • describe the changes as humans develop to old age. <u>Working Scientifically Skills:</u> <ul style="list-style-type: none"> • identifying scientific evidence that has been used to support or refute ideas or arguments. • recording data and results of increasing complexity using scientific

	<p>including levers, pulleys and gears, allow a smaller force to have a greater effect.</p> <p><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> 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 	<p><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate identifying scientific evidence that has been used to support or refute ideas or arguments. 	<p>scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p>	<ul style="list-style-type: none"> 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 	<p>diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p>
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	<p>set up further comparative and fair tests</p> <ul style="list-style-type: none"> 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 			<p>of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.</p> <p><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> 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 	
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				<p>scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p> <ul style="list-style-type: none"> • 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 	
YEAR 6	<p>Should we always do as we are told? Autumn 1</p>	<p>Are natural resources a curse or a blessing? Autumn 2</p>	<p>Does the economy always serve society? Spring 2</p>	<p>Who holds the power for change? Summer 1</p>	<p>Do my individual actions have a global impact??</p>

	<p>Animals including humans</p> <p><u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> 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. <p><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> identifying scientific evidence that has been used to support or refute ideas or arguments. recording data and results of increasing complexity using scientific diagrams and labels, 	<p>Living things and their habitats</p> <p><u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals give reasons for classifying plants and animals based on specific characteristics. <p><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> identifying scientific evidence that has been used to support or refute ideas or arguments. recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs 	<p>Light</p> <p><u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> recognise that light appears to travel in straight lines 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 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 use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. <p><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> 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 	<p>Evolution</p> <p><u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> 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 <p><u>Working Scientifically Skills:</u></p>	<p>Summer 2 Electricity</p> <p><u>Scientific Knowledge:</u></p> <ul style="list-style-type: none"> associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit 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 use recognised symbols when representing a simple circuit in a diagram. <p><u>Working Scientifically Skills:</u></p> <ul style="list-style-type: none"> planning different types of scientific enquiries to
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	classification keys, tables, scatter graphs, bar and line graphs		<p>repeat readings when appropriate</p> <ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• identifying scientific evidence that has been used to support or refute ideas or arguments.• recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs	<p>answer questions, including recognising and controlling variables where necessary</p> <ul style="list-style-type: none">• 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
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					<p>comparative and fair tests</p> <ul style="list-style-type: none">• 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
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