



Science Long Term Curriculum Plan

Science at a Glance – Eastfield Primary School						
	Autumn		Spring		Summer	
EYFS	Animals including human bodies and hygiene.	Seasonal changes- Environmental changes- observing	Everyday Materials- exploration	Animals and their habitats – sealife animals	Living things – lifecycles Observe over time	Plants – growth Observe over time
Year 1	Animals Including Humans Naming types of animals and parts of animals		Everyday Materials (naming materials) Everyday Materials (properties of materials)		Plants Name plants, including trees.	
	Seasonal Changes Changes in the weather (all year)		Seasonal Changes Changes in the weather (all year)		Seasonal Changes Changes in the weather (all year)	
Year 2	Living things and their habitats		Uses of Everyday Materials Investigate the suitability of materials for their uses		Plants	Animals including humans

Eastfield Primary School - Long Term Plan by subject



Year 3	Plants The function of different parts of a plant	Animals Including Humans Nutrition	Rocks and soil Identify and classify a variety of rocks	Forces and Magnets Magnetic Forces	Light Sources of light/ shadows		Animals Including Humans Investigating skeletons
Year 4	Electricity Electrical circuits and components	Sound How sound is made	States of Matter Solids, liquids and gasses	Animals Including Humans Food Chains	Living Things and their Habitats Group and classify living things.	Animals Including Humans (Digestive system/ teeth)	
Year 5	Properties and Changes of Materials How materials change and can be separated		Evolution and Inheritance How living things have adapted to suit their environments over time	Living Things and their Habitats Lifecycles	Earth and Space The planets and the solar system	Forces The force of gravity/ air, water resistance and friction	
					In PSHCE (Jigsaw lessons)we will cover Animals Including Humans How humans change as they develop.		
Year 6	Light How light travels/how shadows are formed	Animals Including Humans The Heart	Living Things and their Habitats Classifying living things		Animals Including Humans Reproduction (SRE)	Electricity Variations in components	



EYFS			
The children will have a range of opportunities to explore each of these objectives with a range of materials and opportunities throughout the continuous provision, in the natural environment and through science investigations both adult-led and child initiated.			
Understanding the world	Personal, Social and Emotional Development	Physical Development	Communication and Language
<p>3- 4 year olds will: Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things. Plant seeds and care for growing plants. Begin to understand the need to respect and care for the natural environment and all living things.</p> <p>Reception age will: Explore the natural world around them. Describe what they see, hear and feel whilst outside. Understand the effect of changing seasons on the natural world around them.</p> <p>ELG_ The Natural World 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 changed in the natural world around them, including the seasons and changing states of matter</p>	<p>Reception will: Manage their own needs.</p> <p>ELG: Managing Self Make their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.</p>	<p>3-4 year old age will; Make healthy choices about food, drink, activity and toothbrushing.</p> <p>Reception age will: Know and talk about the different factors that support their overall health and Wellbeing,</p>	<p>Reception age will: Learn new vocabulary Engage in non-fiction books</p>



Year 1 Science

<p>Animals, including humans</p> <p>To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> <p>To identify and name a variety of common animals that are carnivores, herbivores and Omnivores</p> <p>To describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</p> <p>To 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><u>Working Scientifically</u> Identifying and classifying.</p> <p>Asking simple questions</p> <p>Using their observations and ideas to suggest answers to questions</p>	<p>Plants</p> <p>To identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p>To identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p><u>Working Scientifically</u></p> <p>Observing closely using simple equipment</p> <p>Using their observations and ideas to suggest answers to questions.</p>	<p>Everyday materials</p> <p>To distinguish between an object and the material from which it is made</p> <p>To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</p> <p>To describe the simple physical properties of a variety of everyday materials</p> <p>To compare and group together a variety of everyday materials on the basis of their simple physical properties.</p> <p><u>Working Scientifically</u> Using their observations and ideas to suggest answers to questions</p> <p>Identifying and classifying.</p> <p>Perform simple tests. (Comparative testing)</p>	<p>Seasonal changes</p> <p>To observe changes across the four seasons</p> <p>To observe and describe weather associated with the seasons and how day length varies.</p> <p><u>Working Scientifically</u> Observing closely using simple equipment</p> <p>Gathering and recording data to help in answering questions.</p>
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Year 2 Science

<p>Animals, including humans</p> <p>To notice that animals, including humans, have offspring which grow into adults</p> <p>To find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>To describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p> <p><u>Working Scientifically</u> Using their observations and ideas to suggest answers to questions.</p>	<p>Plants</p> <p>To observe and describe how seeds and bulbs grow into mature plants</p> <p>To find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p> <p><u>Working Scientifically</u> Perform simple tests.</p> <p>Gathering and recording data to help in answering questions.</p> <p>Asking simple questions and recognising they can be answered in different ways.</p>	<p>Uses of everyday materials</p> <p>To 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>To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p> <p><u>Working Scientifically</u></p> <p>Gathering and recording data to help in answering questions.</p> <p>Perform simple tests.</p>	<p>Living things and their habitats</p> <p>To explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>To 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>To identify and name a variety of plants and animals in their habitats, including microhabitats</p> <p>To 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><u>Working Scientifically</u> Identifying and classifying.</p> <p>Using their observations and ideas to suggest answers to questions.</p> <p>Observing closely, using simple equipment.</p>
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Year 3 Science

<p>Animals, including humans To 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>Working Scientifically Using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>Animals, including humans To identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p> <p>Working Scientifically Recording findings using simple scientific language, drawings, labelled diagrams and tables</p>	<p>Plants To identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <p>To 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>To investigate the way in which water is transported within plants</p> <p>To explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</p> <p>Working Scientifically Asking relevant questions and using different types of scientific enquiries to answer them</p> <p>Setting up simple practical enquiries, comparative and fair tests</p> <p>Using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>Light To recognise that they need light in order to see things and that dark is the absence of light</p> <p>To notice that light is reflected from surfaces</p> <p>To recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>To recognise that shadows are formed when the light from a light source is blocked by an opaque object</p> <p>To find patterns in the way that the size of shadows change.</p> <p>Working Scientifically Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including data loggers</p> <p>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</p> <p>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</p>	<p>Forces and magnets To compare how things move on different surfaces To notice that some forces need contact between two objects, but magnetic forces can act at a distance</p> <p>To observe how magnets attract or repel each other and attract some materials and not others</p> <p>To 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>To describe magnets as having two poles</p> <p>To predict whether two magnets will attract or repel each other, depending on which poles are facing</p> <p>Working Scientifically Using straightforward scientific evidence to answer questions or to support their findings.</p> <p>Setting up simple practical enquiries, comparative and fair tests</p> <p>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p>	<p>Rocks To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>To describe in simple terms how fossils are formed when things that have lived are trapped within rock</p> <p>To recognise that soils are made from rocks and organic matter.</p> <p>Working Scientifically Recording findings using simple scientific language, drawings, labelled diagrams, keys, and tables</p> <p>Identifying differences, similarities or changes related to simple scientific ideas and processes</p> <p>Recording and classifying to help answer questions</p>
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Year 4 Science

<p>Animals, including humans To construct and interpret a variety of food chains, Identifying producers, predators and prey <u>From living things and their habitats (to fit with this</u> To recognise that environments can change and that this can sometimes pose dangers to living things Working Scientifically Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables Using straightforward scientific evidence to answer questions or to support their findings. Identify differences, similarities or changes related to simple scientific ideas and processes.</p>	<p>Animals, including humans To describe the simple functions of the basic parts of the digestive system in humans To identify the different types of teeth in humans and their simple functions Working Scientifically Using straightforward scientific evidence to answer questions or to support their findings. Asking relevant questions and using different types of scientific enquiries to answer them</p>	<p>States of matter To compare and group materials together, according to whether they are solids, liquids or gases To 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) To identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. Working Scientifically Identifying differences, similarities or changes related to simple scientific ideas and processes 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</p>	<p>Living things and their habitats To recognise that living things can be grouped in a variety of ways To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment Working Scientifically Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables Using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>Electricity To identify common appliances that run on electricity To construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers To 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 To recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit To recognise some common conductors and insulators, and associate metals with being good conductors. Working Scientifically 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>	<p>Sound To identify how sounds are made, associating some of them with something vibrating To recognise that vibrations from sounds travel through a medium to the ear To find patterns between the pitch of a sound and features of the object that produced it To find patterns between the volume of a sound and the strength of the vibrations that produced it To recognise that sounds get fainter as the distance from the sound source increases. Working Scientifically Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including data loggers Setting up simple practical enquiries, comparative and fair tests Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</p>
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Year 5 Science

<p>Animals, including humans THIS IS COVERED THROUGH SRE UNIT</p> <p>To describe the changes as humans develop to old age (Linked to SRE week) Puberty – male and female changes in puberty and beyond <u>Working Scientifically</u></p> <p>Recording data and results of increasing complexity using scientific diagrams and labels</p>	<p>Living things and their habitats To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</p> <p>To describe the life process of reproduction in some plants and animals. (Study native Mexican Animals)</p> <p><u>Working Scientifically</u> Recording data and results of increasing complexity using scientific diagrams and labels .</p>	<p>Properties and changes of materials 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>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>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes</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><u>Working Scientifically</u> Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</p> <p>Recording data and results of increasing complexity using scientific tables, bar and line graphs.</p>	<p>Forces To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</p> <p>To identify the effects of air resistance, water resistance and friction, that act between moving surfaces</p> <p>To recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p> <p>(Test air resistance with parachutes and investigate the effectiveness of different parachutes) (Investigate how air resistance principles have influenced the development of air travel)</p> <p><u>Working Scientifically</u> Using test results to make predictions to set up further comparative and fair tests</p> <p>Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate.</p> <p>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.</p>	<p>Evolution and inheritance To recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> <p>To recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>To identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p> <p><u>Working Scientifically</u> Reporting and presenting findings from enquiries, including conclusions, in oral and written forms such as displays and other presentations.</p> <p>Identifying scientific evidence that has been used to support or refute ideas or arguments</p>	<p>Earth and space To describe the movement of the Earth, and other planets, relative to the Sun in the solar system</p> <p>To describe the movement of the Moon relative to the Earth</p> <p>To describe the Sun, Earth and Moon as approximately spherical bodies</p> <p>To 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><u>Working Scientifically</u> Identifying scientific evidence that has been used to support or refute ideas or arguments</p>
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Year 6 Science

<p>Animals including humans To identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</p> <p>To recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</p> <p>To describe the ways in which nutrients and water are transported within animals, including humans.</p> <p>Working Scientifically recording data and results of increasing complexity using scientific diagrams and labels</p> <p>Reporting and presenting findings from enquiries, including conclusions, in oral and written forms such as displays and other presentations.</p> <p>Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate.</p>	<p>Living things and their habitats To 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</p> <p>To give reasons for classifying plants and animals based on specific characteristics.</p> <p>Working Scientifically Identifying scientific evidence that has been used to support or refute ideas or arguments</p>	<p>Light To recognise that light appears to travel in straight lines</p> <p>To 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</p> <p>To 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</p> <p>To use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p> <p>Working Scientifically Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</p> <p>Using test results to make predictions to set up further comparative and fair tests</p> <p>Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p>	<p>Electricity To know the number of cells and voltage in the circuit and how it is associated with the brightness of a lamp/bulb or the volume of a buzzer.</p> <p>To know how the use of switches affects a circuit</p> <p>To know the symbols in an electrical circuit diagram</p> <p>Working Scientifically Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Using test results to make predictions to set up further comparative and fair tests.</p> <p>Recording data and results of increasing complexity using scientific diagrams and charts.</p>
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