



Science Curriculum Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<u>Reception</u>	<u>Nature</u> 22-36/30-50months EYFS: UW- 22-36, Notices detailed features of their environments. CL - 22-36 - Understand who what where in simple questions. Developing to understand simple concepts (big and small) UW -30-50 - Comments and asks questions about aspects of their familiar world such as the place that they live or the natural world.	<u>Seasons</u> 30-50months EYFS: UW - 30-50- Can talk about some of the things they have observed such as plants, animals and natural and found objects. Talk about how things work and why things happen. EAD - 30-50- Explore and describes the textures of different things. Realises tools can be used for a purpose.	<u>Materials</u> 30-50/40-60months EYFS: EAD - 40-60 - Experiment to create different textures. CL - 30-50- Begins to understand how and why questions. UW - 30-50- Developing an understanding of growth, decay and changes over time. Shows care and concern for living things in the environments.	<u>Healthy food</u> 40-60months EYFS: PD - 40-60- Eats a healthy range of food stuff and understand the need for variety in food. Understanding the need for hygiene. UW - 40-60- Looks closely at similarities, differences, patterns and change. PSED - 40-60- Explains own knowledge and understanding, asks appropriate questions.	<u>Space</u> 40-60/ELG EYFS: UW - 40-60- Looks closely at similarities, differences, patterns and change. UW - ELG - Children know about similarities and differences in relation to places, objects, materials, and living things. CL - ELG - They answer how and why question in response to events. EAD - ELG- Safely use and explore different materials.	<u>Animals and plants</u> ELG EYFS: UW - ELG - Talk about features of their own immediate environment and how environments may vary they make observations of animals, plants, and explain why some things occur and talk about changes. PD - ELG- Talk about ways to keep healthy and safe. EAD - ELG- Children use what they have learnt in original ways.
<u>Year 1</u> <u>Working scientifically</u> <u>KPIs met throughout the year:</u>	<u>Animals - identifying and classifying</u>	<u>Animals - diet</u>	<u>Plants</u> <u>Seasons</u>	<u>Materials - properties</u>	<u>Materials - building</u>	<u>Recap - Plants, animals, seasons</u>
<ul style="list-style-type: none"> To be able to ask simple questions. To be able to answer simple questions. To carry out a simple test To carry out a simple test/investigation. Using their 	<ul style="list-style-type: none"> To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. 	<ul style="list-style-type: none"> To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. To identify and name a variety of common animals including their diet. 	<ul style="list-style-type: none"> To identify and describe the basic structure of a variety of common flowering plants, including trees. To Know and name a variety of common wild and garden plants, including deciduous and evergreen trees. Observe and 	<ul style="list-style-type: none"> Describe the simple physical properties of a variety of everyday materials Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. 	<ul style="list-style-type: none"> To be able to answer simple questions. To carry out a simple test Using their observations and ideas, begin to think about ideas to answer questions. Compare and group together a variety of everyday 	<ul style="list-style-type: none"> To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. To Know and name a variety of common wild and garden plants, including deciduous and

<p>observations and ideas, begin to think about ideas to answer questions.</p> <ul style="list-style-type: none"> Using their observations and ideas, begin to think about ideas to answer questions. 			<p>describe weather associated with the seasons and how day length varies.</p> <ul style="list-style-type: none"> Observe changes across the four seasons. 		<p>materials on the basis of their simple physical properties.</p>	<p>evergreen trees.</p> <ul style="list-style-type: none"> To identify and name a variety of common animals including their diet. E.g. Carnivore, Omnivore, Herbivore.
<p><u>Year 2</u> <u>Working scientifically KPIs met throughout the year:</u></p> <ul style="list-style-type: none"> Performing simple tests. Using their observations and ideas to suggest answers to questions. Gathering and recording data to help in answering questions. Asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment 	<p><u>Animals and their babies</u></p> <ul style="list-style-type: none"> Identifying and classifying. Using their observations and ideas to suggest answers to questions. 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). 	<p><u>Materials and their properties</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>Living things and their habitats</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 Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). 	<p><u>Investigative 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. 	<p><u>Healthy lifestyle</u></p> <ul style="list-style-type: none"> Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). 	<p><u>Plants</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. 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
<p><u>Year 3</u></p>	<p><u>Forces - friction</u></p> <ul style="list-style-type: none"> Compare how things move on different surfaces Science web states that working 	<p><u>Light and dark</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 	<p><u>Magnets</u></p> <ul style="list-style-type: none"> Notice that some forces need contact between two objects, but magnetic forces 	<p><u>The human body - nutrition</u></p> <ul style="list-style-type: none"> Identify that animals, including humans, need the right types and 	<p><u>Sound</u></p> <ul style="list-style-type: none"> Identify how sounds are made, associating some of them with something 	<p><u>Plants</u></p> <ul style="list-style-type: none"> Identify and describe the functions of different parts of flowering plants:

	<p>scientifically KPIs are covered in this half term</p>	<ul style="list-style-type: none"> 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 a solid object find patterns in the way that the size of shadows changes. 	<p>can act at a</p> <ul style="list-style-type: none"> Observe how magnets attract or repel each other and attract some materials and not others Describe magnets as having two poles Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic material Predict whether two magnets will attract or repel each other, depending on which poles are facing 	<p>amount of nutrition, and that they cannot make their own food; they 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>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>roots, stem/trunk, leaves and flowers</p> <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. Recognise that soils are made from rocks and organic matter.
<p><u>Year 4</u></p>	<p><u>Experiments</u></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 	<p><u>Teeth and the digestive system</u></p> <ul style="list-style-type: none"> 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 	<p><u>Electricity</u></p> <ul style="list-style-type: none"> 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. Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers Identify common appliances that run on electricity 	<p><u>Solids, liquids and gases</u></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) Identifying differences, similarities or changes related to simple scientific 	<p><u>Animals and life cycles</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 	

	<p>conclusions, make predictions for new values, suggest improvements and raise further questions</p> <ul style="list-style-type: none"> Using straightforward scientific evidence to answer questions or to support their findings. 				<p>ideas and processes</p> <ul style="list-style-type: none"> 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 ($^{\circ}\text{C}$) 	<p>can sometimes pose dangers to living things.</p> <ul style="list-style-type: none"> Construct and interpret a variety of food chains, identifying producers, predators and prey.
<p><u>Year 5</u> <u>Working scientifically</u> <u>KPIs met throughout</u> <u>the year:</u> Be able to plan a scientific enquiry to answer questions, including recognising variables Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Take measurements using a range of scientific equipment with increasing accuracy and precision Report and present findings from enquiries through written explanations and conclusions</p>	<p><u>Forces</u> <u>Pulleys and levers</u></p> <ul style="list-style-type: none"> Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have greater effect. 	<p><u>Sound</u></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 Give reasons, based on evidence, from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. 	<p><u>Life cycles</u></p> <ul style="list-style-type: none"> Describe the differences in the life cycle of a mammal, an amphibian, an insect and a bird Describe the life process of reproduction in some plants and animals 	<p><u>Forces</u> <u>Resistance,</u> <u>friction, gravity</u> <u>Solids, liquids and</u> <u>gases</u></p> <ul style="list-style-type: none"> Identify the effects of air resistance, water resistance and friction, that act between moving surfaces Use solids, liquids, gases to decide how mixtures might be separated -Explain that unsupported objects fall between the Earth and the falling object 	<p><u>Properties of</u> <u>materials</u></p> <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 	<p><u>Changing states</u></p> <ul style="list-style-type: none"> Demonstrate that dissolving, mixing and changes of state are reversible Know that some materials will dissolve in liquid to form a solution Explain that some changes result in the formation of new materials

Year 6

Working scientifically
KPIs met throughout
the year:

- 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 a degree of trust in results, in oral and written forms such as displays and other presentations
- Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary

Inventions and electricity

- KPI: associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
- KPI: Pupils should be taught to take the necessary precautions for working safely with electricity.

Light

- KPI: 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
- DT KPI: To select from and use a wider range of tools and equipment to perform practical tasks
- KPI: recognise that light appears to travel in straight lines

The human body The circulatory system Diet and exercise

- KPI: identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
- KPI: recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function
- KPI: Describe the changes as humans develop to old age.

Classification

- KPI: 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.
- KPI: Give reasons for classifying plants and animals based on specific characteristics.

Nutrients

- KPI: To describe the ways in which nutrients and water are transported within animals, including humans
- KPI: To recognise the impact of drugs and lifestyle on the way their bodies function

Evolution and inheritance

- KPI: Recognise that living things have changed overtime
- KPI: Recognise that fossils provide information about living things that inhabited the Earth millions of years ago
- KPI: recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents
- KPI: identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution