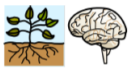


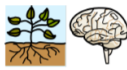


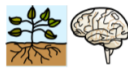




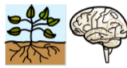

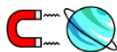
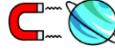


Science National Curriculum Overview

	Autumn		Spring		Summer	
Reception	 <p>Seasonal Changes</p> <ul style="list-style-type: none"> Describe changes to trees and woodland plants in autumn. Name plants and parts of plants in allotment harvest.  <p>Exploring Materials</p> <ul style="list-style-type: none"> Describe changes of state with cement and clay. Explore different materials freely. 	 <p>Healthy Eating</p> <ul style="list-style-type: none"> Healthy living, healthy food, making good choices, vocabulary 	 <p>Seasonal Changes</p> <ul style="list-style-type: none"> Describe changes to trees and woodland plants in winter. 	 <p>Exploring Materials</p> <ul style="list-style-type: none"> Describe and explain changes of state with water. Explore collections of materials with similar and/or different properties. Use all their senses in hands-on exploration of natural materials.  <p>The World</p> <ul style="list-style-type: none"> Explore the natural world around them. Describe what they see, hear and feel whilst outside. 	 <p>Changing</p> <ul style="list-style-type: none"> Describe and recall the transition from caterpillars into butterflies. Identify similarities and differences between the animals and plants in different environments. Describe changes to trees and woodland plants in spring. Know and demonstrate how to grow seeds and care for seedlings. Identify similarities and differences between babies and four year olds. Describe how people change in the first four 	 <p>Seasonal Changes</p> <ul style="list-style-type: none"> Describe changes to trees and woodland plants in summer. Know and demonstrate how to nurture edible plants.  <p>The Environment</p> <ul style="list-style-type: none"> Describe natural and manmade beach detritus and know the dangers to wildlife from man-made rubbish.


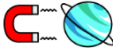




Science National Curriculum Overview

	<ul style="list-style-type: none"> • Develop their own ideas and then decide which materials to use to express them. • Recycling household waste and can say what the object used to be and what it is now. • Join different materials and explore different textures. • Make considered choices to create mixed media or relief design in clay. 			<ul style="list-style-type: none"> • Recognise some environments that are different to the one in which they live. • Talk about what scientists do – famous scientists and their discoveries. 	<p>years of life.</p> <ul style="list-style-type: none"> • Identify similarities and differences between four year olds and adults. Describe how people grow up and change. 	<ul style="list-style-type: none"> • Create, describe and explain transient 2D or 3D designs or sculptures with natural materials out in the environment.
<p>Characteristics of effective learning</p> <ul style="list-style-type: none"> • Finding out and exploring • This is when children use open-ended, hands on experiences which arise from curiosity. These provide the basis on which the child builds concepts, tests ideas and finds out how things work 						
Year 1	 <p>Materials</p> <ul style="list-style-type: none"> • To distinguish between an object and the material from which it is made 	 <p>Seasonal Changes</p> <p>(Taught across the year)</p> <ul style="list-style-type: none"> • To observe changes across the four seasons 	 <p>Animals including humans</p> <ul style="list-style-type: none"> • To identify and name a variety of common animals including fish, amphibians, reptiles, 	 <p>Plants</p> <ul style="list-style-type: none"> • To identify and name a variety of common wild and garden plants, including deciduous and 	 <p>Light and Dark</p> <p>(Non-statutory)</p> <ul style="list-style-type: none"> • To identify and name the sources of light 	 <p>Forces</p> <p>(Non-statutory)</p> <ul style="list-style-type: none"> • To observe and describe different ways of moving


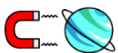
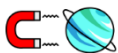




Science National Curriculum Overview

	<ul style="list-style-type: none"> To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock To describe the simple physical properties of a variety of everyday materials To compare and group together a variety of everyday materials on the basis of their simple physical properties <p>Could this be across the term or Animals including humans across Spring? Lots of objectives / areas to look at.</p>	<ul style="list-style-type: none"> To observe and describe weather associated with the seasons and how day length varies <p>Should we use a floor book and make this more regular across the year?</p>	<p>birds and mammals</p> <ul style="list-style-type: none"> To identify and name a variety of common animals that are carnivores, herbivores and omnivores To describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) 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>evergreen trees</p> <ul style="list-style-type: none"> To identify and describe the basic structure of a variety of common flowering plants, including trees 	<ul style="list-style-type: none"> To identify and name sources of light that we can see To explain what darkness is To compare sources of light (brightest, dimmest, darker, lighter) To describe how light is different during the night and day 	<ul style="list-style-type: none"> To describe and show how to make something move, e.g. push and pull To describe and explain changes in movement as a result of an action
<p>Working Scientifically</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 						

Science National Curriculum Overview

	<ul style="list-style-type: none"> Gathering and recording data to help in answering questions 					
Year 2	Autumn		Spring		Summer	
	 <p>Animals, including humans</p> <ul style="list-style-type: none"> To notice that animals, including humans, have offspring which grow into adults. To find out about and describe the basic needs of animals, including humans, for survival (water, food and air). To describe the importance for humans of exercise, eating the right amounts of different types of foods, and hygiene. 	 <p>Light and Electricity (Non-statutory)</p> <ul style="list-style-type: none"> To demonstrate their understanding that many everyday appliances require electricity and to group appliances into categories. To understand that electricity can be dangerous and appliances must be used safely. To make a complete circuit using batteries, bulbs, wires and to make the bulb/buzzer 	 <p>Materials</p> <ul style="list-style-type: none"> To distinguish between an object and the material from which it is made. To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. To describe the simple physical properties of a variety of everyday materials. 	 <p>Plants</p> <ul style="list-style-type: none"> To observe and describe how seeds and bulbs grow into mature plants. To find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. 	 <p>Living things and their habitats</p> <ul style="list-style-type: none"> To explore and compare the differences between things that are living, dead, and things that have never been alive. 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>Outdoor science (Non-statutory)</p> <ul style="list-style-type: none"> To explore working scientifically objectives through a range of practical investigations. Children to create their own questions about learning across the year (animals, materials, plants, living things) Explore different ways of answering these questions



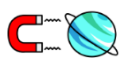

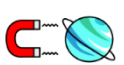


Science National Curriculum Overview

		work.	<ul style="list-style-type: none"> To compare and group together a variety of everyday materials on the basis of their simple physical properties. 		<ul style="list-style-type: none"> To identify and name a variety of plants and animals in their habitats, including microhabitats. 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 	
 Working scientifically	Working Scientifically <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 					
	Year 3	Autumn		Spring		Summer
						 Working scientifically

Science National Curriculum Overview

	Forces and Magnets	Light	Rocks	Plants	Animals, including humans	Food Science (Non-statutory)
	<ul style="list-style-type: none"> To compare how things move on different surfaces To notice that some forces need contact between two objects To observe how magnets attract or repel each other and attract some materials and not others 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 	<ul style="list-style-type: none"> To recognise that they need light in order to see things and that dark is the absence of light. To notice that light is reflected from surfaces. To recognise that light from the sun can be dangerous and that there are ways to protect their eyes To recognise that shadows are formed when the light from a light source is blocked by an opaque object To find patterns in the way that the size of shadows change 	<ul style="list-style-type: none"> To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties To describe in simple terms how fossils are formed when things that have lived are trapped within rock To recognise that soils are made from rocks and organic matter. 	<ul style="list-style-type: none"> To identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers 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 To investigate the way in which water is transported within plants To explore the part that flowers play in the life cycle of flowering plants, pollination, seed 	<ul style="list-style-type: none"> 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 To identify that humans and some other animals have skeletons and muscles for support, protection and movement. 	<ul style="list-style-type: none"> Recap knowledge of food groups and what makes a balanced diet Explore what taste buds are and how they work Explore plants that can and can't be eaten. Explore the different between fatty foods and fat free foods. gathering, recording, classifying and presenting data in a variety of ways to help in answering questions setting up simple practical enquiries, comparative and fair




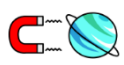

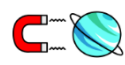
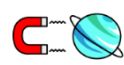
Science National Curriculum Overview

	<ul style="list-style-type: none"> To describe magnets as having two poles To predict whether two magnets will attract or repel each other, depending on which poles are facing. 			formation and seed dispersal.		<p>tests</p> <ul style="list-style-type: none"> identifying differences, similarities or changes related to simple scientific ideas and processes
 Working scientifically	<p>Working Scientifically</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 variety of ways to help in answering questions recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings. 					
Year 4	Autumn		Spring		Summer	
	 Animals, including		 States of Matter		 Living things and their	 Working scientifically

Science National Curriculum Overview

	humans	Sound		Electricity	habitats	Citizen Science Projects (Non-statutory)
	<ul style="list-style-type: none"> 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. To construct and interpret a variety of food chains, identifying producers, predators and prey. 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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 ($^{\circ}\text{C}$). To identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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. To recognise that environments can change and that this can sometimes pose dangers to living things. 	<ul style="list-style-type: none"> Children to apply their knowledge and understanding of science to a range of citizen science projects organised by academic institutions Enhance the children's science capital while contributing towards real life scientific research <p>Examples include:</p> <ul style="list-style-type: none"> The Great British Bee Count Wildwatch Kenya Big Schools Bird Watch


Science National Curriculum Overview

		<ul style="list-style-type: none"> To recognise that sounds get fainter as the distance from the sound source increases. 		<p>a lamp lights in a simple series circuit.</p> <ul style="list-style-type: none"> To recognise some common conductors and insulators, and associate metals with being good conductors. 		
 Working scientifically	<p>Working Scientifically</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 variety of ways to help in answering questions recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings. 					
	Year 5	Autumn		Spring		Summer
	 Materials	 Animals, including humans	 Forces	 Living things and their habitats	 Earth and Space	 Light (Non-Statutory)




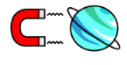
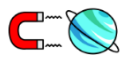
Science National Curriculum Overview

	<ul style="list-style-type: none"> • To compare and group together everyday materials on the basis of their properties • To understand materials respond to magnets • To know that some materials will dissolve in liquid to form a solution • To describe how to recover a substance from a solution • To use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating 	<ul style="list-style-type: none"> • To describe the changes as humans develop to old age 	<ul style="list-style-type: none"> • To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object • To identify the effects of air resistance, • To identify the effects of water resistance • To identify the effects of friction that act between moving surfaces • To recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. 	<ul style="list-style-type: none"> • To describe the differences in the life cycles of a mammal • To describe the differences in the life cycles of a an amphibian, • To describe the differences in the life cycles of an insect • To describe the differences in the life cycles of a bird • To describe the life process of reproduction in some plants and animals. 	<ul style="list-style-type: none"> • To describe the movement of the Earth, and other planets, relative to the Sun in the solar system • To describe the movement of the Moon relative to the Earth • To describe the Sun, Earth and Moon as approximately spherical bodies • 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>This is very similar to Year 6 unit- I could look at changing or taking out to allow more time for Materials - a very long unit ?</p> <ul style="list-style-type: none"> • Explore light using the working scientifically objectives • Children to planning and carrying out their own enquires to answer questions. • Explore the work of famous local scientist, William Armstrong and attempt to recreate. • Using tests to make predictions to set up further tests • Reporting and
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Science National Curriculum Overview

	<ul style="list-style-type: none"> • To give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials • To demonstrate that dissolving, mixing and changes of state are reversible changes • To explain that some changes result in the formation of new materials 					<p>presenting findings from enquiries</p>
 Working scientifically	<p>Working Scientifically</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 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 					

Science National Curriculum Overview

	<p>displays and other presentations</p> <ul style="list-style-type: none"> identifying scientific evidence that has been used to support or refute ideas or arguments. 				
Year 6	Autumn		Spring		Summer
	 <p>Animals, including humans</p> <ul style="list-style-type: none"> To identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. To recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. To describe the ways in which nutrients and 	 <p>Living things and their habitats</p> <ul style="list-style-type: none"> To describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals. To give reasons for classifying plants and animals based on specific characteristics. 	 <p>Evolution and inheritance</p> <ul style="list-style-type: none"> 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. To recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. 	 <p>Light</p> <ul style="list-style-type: none"> To recognise that light appears to travel in straight lines. 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. To explain that we see things because light travels from light sources to our eyes or 	 <p>Electricity</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



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	<p>water are transported within animals, including humans.</p>		<ul style="list-style-type: none"> To identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. 	<p>from light sources to objects and then to our eyes.</p> <ul style="list-style-type: none"> 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>and the on/off position of switches.</p> <ul style="list-style-type: none"> Use recognised symbols when representing a simple circuit in a diagram. 	<p>appropriate diagrams and charts.</p>
<p>Working Scientifically</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 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. 						