




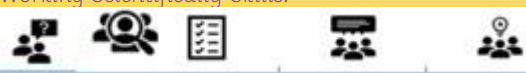



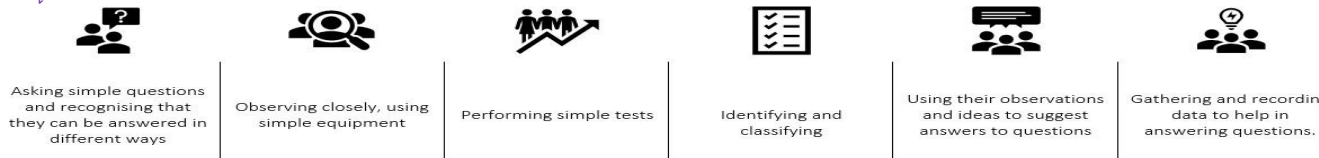




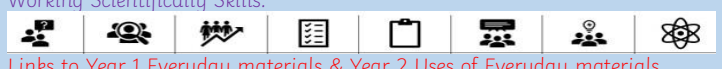











	Reception	Year 1		Year 2		
Autumn	<p>ELG: The Natural World</p> <p>Explore the natural world around them, making observations and drawing pictures of animals and plants.</p> <p>Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class</p>	<p>Seasonal Changes:</p> <p>Children will know: the names of the four seasons, what the weather is like in the different seasons and why day becomes night.</p>	<p>Children will be able to:</p> <ul style="list-style-type: none"> -Observe changes across the 4 seasons -Observe and describe weather associated with the seasons and how day length varies <p>Working Scientifically Skills:</p>  <p>Links to: EYFS ELG: The World</p>	<p>Living things and their Habitats:</p> <p>Children will know: the difference between alive and not alive and what living things have in common. Where plants and animals live and what plants and animals are in our local environment. What food chains are and how they are connected. Why plants and animals need each other.</p>	<p>Children will be able to:</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 the idea of a simple food chain, and identify and name different sources of food. <p>Working Scientifically Skills:</p>  <p>Links to: Year 1 Plants, Everyday materials, and Animals, including humans</p>	
		<p>Plants: (Trees):</p> <p>Children will know: what makes a tree, what trees are in my local environment and what's the difference between trees (Deciduous and Evergreen)</p>	<p>Children will be able to:</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>Working Scientifically Skills:</p>  <p>Links to: EYFS ELG: The World</p>		<p>Animals including Humans:</p> <p>Children will know: How animals change as they mature and how we change as we mature. What animals need to stay alive. The importance of keeping healthy, why we need to exercise and why we eat different types of food.</p>	<p>Children will be able to:</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>Working Scientifically Skills:</p>  <p>Links to Year 1 Animals including humans and Plants. Year 2 Living things and their habitats.</p>
		<p>Animals including Humans:</p> <p>Children will know: what an animal is, the different types of animals and similarities and differences. What food tells us about an animal. What makes us an animal and what senses we have.</p>	<p>Children will be able to:</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. <p>Working Scientifically Skills:</p>  <p>Links to: EYFS ELG's for The World and Managing Self</p>		<p>Uses of everyday materials:</p> <p>Children will know: what different materials are used for (categorising and comparing) What happens when we squash, bend, twist or stretch a material. Which material is right for the job. What is the most absorbent material and who invented waterproofing.</p>	<p>Children will be able to:</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>Working Scientifically Skills:</p>  <p>Links to: Year 1 Everyday Materials</p>
Spring	<p>ELG: The Natural World</p> <p>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter</p>	<p>Everyday materials</p> <p>Children will know: what the different materials are and what things are made of. How to describe different materials. Which materials are waterproof. Which are opaque and transparent. What material is best for the job and why.</p>	<p>Children will be able to:</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, based on their simple physical properties <p>Working Scientifically skills:</p>  <p>Links to: EYFS ELG: The World</p>	<p>Plants:</p> <p>Children will know: how seeds germinate and what happens. What happens when a bulb sprouts. What plants need to thrive and be healthy and what happens when they don't get what they need. How healthy or unhealthy plants are in the school environment.</p>	<p>Children will be able to:</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>Working Scientifically Skills:</p>  <p>Links to: Y1 Science Animals and living things, use of everyday materials and Plants. Y2 Science Animals, including humans, use of everyday materials and Living things and their habitats.</p>	
Summer	<p>Plants: (Flowers):</p> <p>Children will know: what the parts of a plant are, what wild plants are and where to find them. Which plants are common and where to find them.</p>	<p>Children will be able to:</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>Working Scientifically Skills:</p>  <p>Links to EYFS ELG: The World</p>	<p>Working Scientifically: Through all science topics, children will be taught a variety of approaches to answer relevant scientific questions.</p>  <p>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>			
	<p>Biology</p> <p>The study of living things (organisms), their structure and environments.</p>	<p>Physics</p> <p>The study of matter, forces and motion, sound, light and waves, electricity and magnetism and Earth in Space.</p>	<p>Chemistry</p> <p>The study of the comparison, behaviour and properties of matter and of the elements of the Earth and its atmosphere.</p>			

Lower KS2

		Year 3		Year 4							
Autumn	<p>Rocks: Children will know: how rocks are formed, the different types of rocks and if rocks can change. How to test a rock to see if it is chalk or limestone. What soil is and how fossils are formed.</p>	<p>Children will be able to: -Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. -Describe in simple terms how fossils are formed when things that have lived are trapped within rock. -Recognise that soils are made from rocks and organic matter. <i>Working Scientifically Skills:</i></p>  <p>Links to Year 1 Everyday materials & Year 2 Uses of Everyday materials</p>	<p>Living things and their Habitats: Children will know: the characteristics of living things. Which animals are vertebrates and invertebrates. What classification is and how to use a key. What groups plants are classified in. What happens if an environment in a habitat changes.</p>	<p>Children will be able to: -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 <i>Working Scientifically Skills:</i></p>  <p>Links to Year 3 Rocks, Animals, including Humans and Plants</p>							
	<p>Animals, including Humans: Children will know: how the food we eat affects us. Where my skeleton is and what it does. Where my muscles are and what they do.</p>	<p>Children will be able 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. -Identify that humans and some other animals have skeletons and muscles for support, protection and movement. <i>Working Scientifically Skills:</i></p>  <p>Links to Year1 & Year 2 Animals, including Humans</p>	<p>States of Matter: Children will know: what solids, liquids and gasses are. What matter is and what 'state' means. How materials change state (melting, evaporating, condensing).</p>	<p>Children will be able to: -Compare and group materials together, according to whether they are solids, liquids or gases. -Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) -Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. <i>Working Scientifically Skills:</i></p>  <p>Links to Year 1 Everyday materials, Year 2 Uses of Everyday materials & Year 3 Rocks</p>							
Spring	<p>Forces and Magnets: Children will know: what contact forces and non-contact forces are and how they are different. How surfaces affect the motion of an object and how friction affects moving objects. How magnets attract and repel and which materials are magnetic.</p>	<p>Children will be able to: -Compare how things move on different surfaces -Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance -Observe how magnets attract or repel each other and attract some materials and not others -Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials Describe magnets as having 2 poles -Predict whether 2 magnets will attract or repel each other, depending on which poles are facing. <i>Working Scientifically Skills:</i></p>  <p>Links to Year 1 Everyday materials & Year 2 Uses of Everyday materials</p>	<p>Animals, including Humans: Children will know: what types of teeth humans have and how our mouth and teeth help with digestion. That teeth can tell us what an animal eats. The parts of the digestive system and how the digestive system works.</p>	<p>Children will be able to: -Identify the different types of teeth in humans and their simple functions. -Describe the simple functions of the basic parts of the digestive system in humans. <i>Working Scientifically Skills:</i></p>  <p>Links to Year1, Year 2 & Year 3 Animals, including Humans</p>							
	<p>Light: Children will know: that we need light to see things, how shadows are formed and what happens to the size of a shadow when the object moves closer to or further away from a light source.</p>	<p>Children will be able to: -Recognise that they need light in order to see things and that dark is the absence of light. -Notice that light is reflected from surfaces. -Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. -Recognise that shadows are formed when the light from a light source is blocked by an opaque object. -Find patterns in the way that the size of shadows change. <i>Working Scientifically Skills:</i></p>  <p>Links to Year 3 Animals, including humans, Forces and magnets and Plants</p>	<p>Animals, including Humans: Children will know: what food chains are and how to construct a food chain. How the teeth, digestion and food chains are connected.</p>	<p>Children will be able to: -Construct and interpret a variety of food chains, identifying producers, predators and prey. <i>Working Scientifically Skills:</i></p>  <p>Links to Year1, Year 2 & Year 3 Animals, including Humans</p>							
Summer	<p>Plants: Children will know: the parts of a flowering plant and what they do. If all plants need the same to thrive. How leaves make food and how water moves through a plant. What flowers do and what pollination is.</p>	<p>Children will be able to: -Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. -Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. -Investigate the way in which water is transported within plants. -Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. <i>Working Scientifically Skills:</i></p>  <p>Links to Year 2 Plants and bulbs and Year 3 Animals, including Humans.</p>	<p>Electricity: Children will know: the appliances that use electricity and what sort of power makes them work. The components of a simple series circuit. The effects of changing circuit components and batteries.</p>	<p>Children will be able to: -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. <i>Working Scientifically Skills:</i></p>  <p>Links to Year 3 Light and Forces and Magnets, Year 4 Sound</p>							
			<p>Sound: Children will know: what sound is and how it travels. What the pitch and loudness of sound is.</p>	<p>Children will be able to: -Identify how sounds are made, associating some of them with something vibrating. -Recognise that vibrations from sounds travel through a medium to the ear. -Find patterns between the pitch of a sound and features of the object that produced it. -Find patterns between the volume of a sound and the strength of the vibrations that produced it. -Recognise that sounds get fainter as the distance from the sound source increases. <i>Working Scientifically Skills:</i></p>  <p>Links to Year 3 Light, Year 4 States of Matter and Electricity</p>							
<p>Biology The study of living things (organisms), their structure and environments.</p>		<p>Physics The study of matter, forces and motion, sound, light and waves, electricity and magnetism and Earth in Space.</p>	<p>Chemistry The study of the comparison, behaviour and properties of matter and of the elements of the Earth and its atmosphere.</p>	<p><i>Working Scientifically Skills:</i> Through all science topics, children will be taught a variety of approaches to answer relevant scientific questions.</p> 							
				<p>Ask relevant questions</p>	<p>Set up simple, practical enquiries and comparative and fair tests</p>	<p>Make accurate measurements using standard units, using a range of equipment, e.g. thermometers and data loggers</p>	<p>Gather, record, classify and present data in a variety of ways to help in answering questions</p>	<p>Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables</p>	<p>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</p>	<p>Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests</p>	<p>Identify differences, similarities or changes related to simple, scientific ideas and processes</p>

Upper KS2

		Year 5		Year 6						
Autumn	<p>Properties and Changes of materials: Children will know: The properties materials have and how we use them. What solutions and mixtures are. How to separate materials from mixtures and solutions. Which changes are reversible and irreversible.</p>	<p>Children will be able to: -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. -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 of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.</p> <p>Working Scientifically Skills:</p> <p>Links to Year 4 Electricity and States of Matter & Year 5 Earth and Space</p>	<p>Living things and their Habitats: Children will know: who Carl Linnaeus was and what he did. How to classify vertebrates and invertebrates know to us. How to classify invertebrate's unknown to us. Which animals I can classify and which plants and animals exist in my local environment.</p>	<p>Children will be able 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. -Give reasons for classifying plants and animals based on specific characteristics.</p> <p>Working Scientifically Skills:</p> <p>Links to Year 4 & 5 Living things and their Habitats and Year 5 Animals, including Humans</p>						
	<p>Animals, including Humans: Children will know: what a human lifespan is. How we change into adults. How human and animal lifespans compare.</p>	<p>Children will be able to: -Describe the changes as humans develop to old age. -Draw a timeline to indicate stages in the growth and development of humans. (They should learn about the changes experienced in puberty). -Compare the gestation periods of other animals with humans</p> <p>Working Scientifically Skills:</p> <p>Links to Year 2 & Year 3 Animals, including Humans.</p>	<p>Light: Children will know: How light travels and the colour it is made of. How light helps us see things (reflection) and which surfaces make the best reflectors. Why we see objects as a particular colour. What happens to the appearance of objects when placed in water.</p>	<p>Children will be able to: -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> <p>Working Scientifically Skills:</p> <p>Links to Year 4 Electricity, Sound, States of Matter and Earth and Space. Year 5 Properties and changes in Materials.</p>						
Spring	<p>Forces: Children will know: about gravity(retrieval). When friction is helpful and when it is not. The effect of water resistance and air resistance. Who Galileo Galilei was.</p>	<p>Children will be able to: -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 including levers, pulleys and gears allow a smaller force to have a greater effect.</p> <p>Working Scientifically Skills:</p> <p>Links to Year 3 Forces. Year 4 Electricity, States of matter and Sound. Year 5 Earth and space, Properties and changes of materials</p>	<p>Animals, including Humans: (circulatory system) Children will know: what blood is made of and why we need it. Why our bodies need nutrients and how they are transported. What the circulatory system is. What our heart is like inside and how it works. Who influenced what we know about our circulatory system. What we can do to keep healthy.</p>	<p>Children will be able to: -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 body's function Describe the ways in which nutrients and water are transported within animals, including humans -Describe the ways in which nutrients and water are transported within animals, including humans</p> <p>Working Scientifically Skills:</p> <p>Links to Year 3, 4 & 5 Animals, including Humans</p>						
	<p>Earth and Space: Children will know: the planets in our solar system. How our view of the Moon changes in a lunar month. Why the rotation of the Earth results in day and night. How the Earth's tilt (axis) is responsible for the seasons.</p>	<p>Children will be able to: -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, the Earth and the 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.</p> <p>Working Scientifically Skills:</p> <p>Links to Year 4 Light</p>	<p>Animals, including Humans: (Water Transportation) Children will know: how the circulatory and digestive systems are connected (retrieval). Where the kidneys are and what they do. How our kidneys keep us healthy.</p>	<p>Children will be able to: -Describe the ways in which nutrients and water are transported within animals, including humans</p> <p>Working Scientifically Skills:</p> <p>Links to Year 3, 4 & 5 Animals, including Humans</p>						
Summer	<p>Living things and their Habitats: Children will know: about lifecycle differences (mammal/amphibian and insect/bird). The similarities and differences between lifecycles of mammals, amphibians, insects, and birds. How living things reproduce and the life process of reproduction (plants and animals). Who Maria Merion was and what she did.</p>	<p>Children will be able to: -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</p> <p>Working Scientifically Skills:</p> <p>Links to Year 4 Living things and their Habitats, Animals, including Humans and Plants.</p>	<p>Electricity: Children will know: What electricity is and how it works. How to build and represent a series circuit. The components of a series circuit. The effects and consequences of changing circuit components and batteries.</p>	<p>Children will be able to: -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> <p>Working Scientifically Skills:</p> <p>Links to Year 3 Light and Forces and Magnets. Year 4 Sound and Electricity.</p>						
	<p>Forces: continued Children will know: How levers, pulleys and gears help us.</p>	<p>Children will be able to: -Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.</p> <p>Working Scientifically Skills:</p> <p>Links to Year 3 Forces. Year 4 Electricity, States of matter and Sound. Year 5 Earth and space, Properties and changes of materials</p>	<p>Evolution and Inheritance: Children will know: how living things changed over time and how do we know. How life evolved over time. What DNA is and what it does. Whether all offspring are identical to their parents. Who Darwin and Wallace were and the evidence they shared to argue the case for evolution. How animals have evolved to suit their environment (survival of the fittest).</p>	<p>Children will be able 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. -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> <p>Working Scientifically Skills:</p> <p>Links to Year 3 Rocks. Year 5 Animals, including Humans (life cycles and reproduction) and Properties and Changes of Materials.</p>						
<p>Biology The study of living things (organisms), their structure and environments.</p>	<p>Physics The study of matter, forces and motion, sound, light and waves, electricity and magnetism and Earth in Space.</p>	<p>Chemistry The study of the comparison, behaviour and properties of matter and of the elements of the Earth and its atmosphere.</p>	<p>Working Scientifically Skills: Through all science topics, children will be taught a variety of approaches to answer relevant scientific questions.</p>							
			<p>Plan enquiries, including recognising and controlling variables where necessary</p>	<p>Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work</p>	<p>Take measurements, using a range of scientific equipment, with increasing accuracy and precision</p>	<p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs, and models</p>	<p>Report findings from enquiries, including oral and written explanations of results, explanations involving causal relationships, and conclusions</p>	<p>Present findings in written form, displays and other presentations</p>	<p>Use test results to make predictions to set up further comparative and fair tests</p>	<p>Use simple models to describe scientific ideas, identifying scientific evidence that has been used to support or refute ideas or arguments</p>