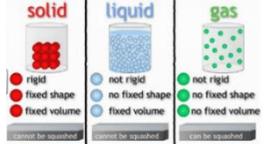


EYFS (ELGs)	National Curriculum theme	Year 1 and Year 2	Year 3 and Year 4	Year 5 and Year 6
Biology				
<p>Explore the natural world around them, making observations and drawing pictures of animals and plants;</p> <p>Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class;</p>	<p>Plants</p> 	<p>YEAR B:</p> <ul style="list-style-type: none"> identify and name a variety of common wild and garden plants, including deciduous and evergreen trees identify and describe the basic structure of a variety of common flowering plants, including trees. <p><u>Children will use scientific skills to investigate:</u> <u>Links to:</u></p> <p>Looking closely at parts of plants  Study plants on school grounds</p> <p>YEAR A</p> <ul style="list-style-type: none"> observe and describe how seeds and bulbs grow into mature plants find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. <p><u>Children will use scientific skills to investigate:</u> <u>Links to:</u></p> <p>Grow seeds and observe change  Observe conditions needed for growth </p> <p><u>Links to:</u> Literacy- The Extraordinary Gardener English Plan</p>	<p>Year A:</p> <ul style="list-style-type: none"> 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. <p><u>Children will use scientific skills to investigate:</u> <u>Links to:</u> PSHCE –</p>	<p>Children will revisit these objectives and build on them in: Living things and their habitats</p>
	<p>Animals, including humans</p>	<p>YEAR B TERM 1/2</p> <ul style="list-style-type: none"> identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals identify and name a variety of common animals that are carnivores, herbivores and omnivores describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) 	<p>Year B:</p> <ul style="list-style-type: none"> identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat identify that humans and some other animals have skeletons and muscles for support, protection and movement. describe the simple functions of the basic parts of the digestive system in humans 	<p>Year A:</p> <ul style="list-style-type: none"> describe the changes as humans develop to old age. identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function describe the ways in which nutrients and water are transported within animals, including humans.

	 	<ul style="list-style-type: none"> • identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. • notice that animals, including humans, have offspring which grow into adults • find out about and describe the basic needs of animals, including humans, for survival (water, food and air) • describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. <p><u>Children will use scientific skills to investigate:</u></p> <p>Observe animal skeletons </p> <p>Effect of exercise on our body </p> <p><u>Links to:</u> PSHCE – Healthy Me</p>	<ul style="list-style-type: none"> • identify the different types of teeth in humans and their simple functions • construct and interpret a variety of food chains, identifying producers, predators and prey. <p><u>Children will use scientific skills to investigate:</u> Does the length of your femur determine how far you can jump?</p> <p>   </p> <p><u>Links to:</u> D&T – Healthy eating PSHE – Healthy Me</p>	<p><u>Children will use scientific skills to investigate:</u> Pulse rate and the effect of exercise  The components of blood  The structure of the heart  <u>Links to:</u> English – writing explanation text on blood and the circulatory system PSHCE – healthy living such as the effect of smoking, alcohol and diet</p>
	<p style="text-align: center;">Living things and their habitats</p> 	<p>YEAR A</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 micro-habitats • 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><u>Children will use scientific skills to investigate:</u> Survey living things in given area  Pond dipping</p> <p><u>Links to:</u> PSHCE – Healthy Me</p>	<p>Year A:</p> <ul style="list-style-type: none"> • recognise that living things can be grouped in a variety of ways • explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment • recognise that environments can change and that this can sometimes pose dangers to living things. <p><u>Children will use scientific skills to investigate:</u> <u>Links to:</u> PSHCE –</p>	<p>Year A:</p> <ul style="list-style-type: none"> • describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals • give reasons for classifying plants and animals based on specific characteristics. <p><u>Children will use scientific skills to investigate:</u> Group and classify living organisms from school grounds – compare and contrast different areas e.g. field, conservation area, pond.  <u>Links to:</u> Geography – Oceans topic</p> <p>Year B:</p> <ul style="list-style-type: none"> • describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird • describe the life process of reproduction in some plants and animals.

				<p><u>Children may investigate:</u> Watching the life cycle of a butterfly with live caterpillars </p> <p><u>Links to:</u> PSHCE – Health education English – Writing a persuasive letter (plastic use / protecting turtle nesting sites).</p>
	<p style="text-align: center;">Evolution and inheritance</p> 			<p>Year B:</p> <ul style="list-style-type: none"> • recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago • recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents • identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. <p><u>Children will use scientific skills to investigate:</u> Darwin's finches Local fossil finds (Charmouth – looking at real examples, Lyme Regis – Mary Anning)   </p> <p><u>Links to:</u> Geography – Rainforests topic, looking at adaptations</p>

EYFS	National Curriculum theme	Year 1 and Year 2	Year 3 and Year 4	Year 5 and Year 6
Chemistry				
<p>Understand some important processes and changes in the natural world around them, including changing states of matter.</p>	<p style="color: #a020f0; font-weight: bold;">Everyday materials</p> 	<p style="background-color: #90ee90; display: inline-block; padding: 2px;">YEAR B</p> <ul style="list-style-type: none"> distinguish between an object and the material from which it is made identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock describe the simple physical properties of a variety of everyday materials compare and group together a variety of everyday materials on the basis of their simple physical properties. <p><u>Children will use scientific skills to investigate:</u> Floating and sinking  Make a kite  Materials hunt </p> <p><u>Links to:</u> English – Dinosaurs and all that Rubbish English Plan</p>	<p>Children will recap and build upon the objectives from key stage 1 during the following units: Light – transparency of materials, whether they can reflect light Sound – which materials insulate sound (Year A)</p>	<p style="background-color: #90ee90; display: inline-block; padding: 2px;">Year B:</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 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><u>Children will use scientific skills to investigate:</u> Soluble and insoluble solids Which changes are reversible  How to separate a mixture  Thermal insulators </p>

	<p>Materials and their properties</p> 	<p>YEAR A</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>Children will use scientific skills to investigate:</u></p> <p>waterproof materials </p> <p>Types of paper </p>		
	<p>Rocks</p> 		<p>Year A:</p> <ul style="list-style-type: none"> • compare and group together different kinds of rocks on the basis of their appearance and simple physical properties • describe in simple terms how fossils are formed when things that have lived are trapped within rock • recognise that soils are made from rocks and organic matter. <p><u>Children may investigate:</u></p> <p><u>Links to:</u> English –</p>	<p>Objectives from Year 3/4 will be revisited and built upon in the following topic: Evolution and inheritance</p>
	<p>States of matter</p> 		<p>Year B:</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 (°C) • identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. <p><u>Children may investigate:</u> How can we speed up changes in state? (How can we melt/evaporate faster?)</p>   	<p>Objectives from Year 3/4 will be revisited and built upon in the following topic: Materials and their Properties</p>

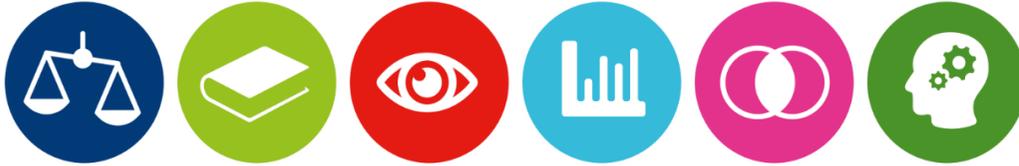
EYFS (ELGs)	National Curriculum theme	Year 1 and Year 2	Year 3 and Year 4	Year 5 and Year 6
Physics				
Understand some important processes and changes in the natural world around them, including the seasons.	Seasonal changes (Year 1/2) 	YEAR A & B Continuous Unit <ul style="list-style-type: none"> observe changes across the four seasons observe and describe weather associated with the seasons and how day length varies. <p><u>Children will use scientific skills to investigate:</u> Observe trees and plants in the school grounds over time.  </p> 		
	Earth and Space (Year 5/6) 			Year B: <ul style="list-style-type: none"> describe the movement of the Earth, and other planets, relative to the Sun in the solar system describe the movement of the Moon relative to the Earth describe the Sun, Earth and Moon as approximately spherical bodies use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. <p><u>Children will use scientific skills to investigate:</u> The relative size of planets in the solar system   How craters are formed </p> <p><u>Links to:</u> Computing – producing an explanatory video about how we get night and day English – write an explanation text</p>

	<p style="text-align: center;">Light</p> 		<p>Year A:</p> <ul style="list-style-type: none"> • recognise that they need light in order to see things and that dark is the absence of light • notice that light is reflected from surfaces • 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 change. <p><u>Children will use scientific skills to investigate:</u> <u>Links to:</u> English –</p>	<p>Year A:</p> <ul style="list-style-type: none"> • recognise that light appears to travel in straight lines • use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye • explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes • use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. <p><u>Children will use scientific skills to investigate:</u> How shadows change throughout the day / distance from the light source  Transparency of materials (Do more layers of a translucent material block more light?) </p>
	<p style="text-align: center;">Sound</p> 		<p>Year A:</p> <ul style="list-style-type: none"> • 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. <p><u>Children will use scientific skills to investigate:</u> <u>Links to:</u> English –</p>	<p>The sound objectives from Year 3/4 will be revisited and built upon in the following topics: Music – musical instruments and their families Electricity unit of science</p> <p><u>Children may investigate:</u> Sound insulators – which materials insulate sound the best? Grouping instruments based on their family but also looking at the pitch and volume of sounds Use dataloggers to investigate sound levels in different positions in school</p> 
	<p style="text-align: center;">Forces and magnets</p>		<p>Year B</p> <ul style="list-style-type: none"> • compare how things move on different surfaces • notice that some forces need contact between two 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 two poles 	<p>Year A:</p> <ul style="list-style-type: none"> • explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object • identify the effects of air resistance, water resistance and friction, that act between moving surfaces • recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

	<p style="text-align: center;">Types of Force</p> 		<ul style="list-style-type: none"> • predict whether two magnets will attract or repel each other, depending on which poles are facing. <p><u>Children will use scientific skills to investigate:</u> What materials affect friction? Surface area and wind resistance.</p>  <p><u>Links to:</u> D&T – consideration of forces when creating models.</p>	<p><u>Children will use scientific skills to investigate:</u> Levers - How the position of a fulcrum affects the force required to lift an object Parachutes group investigation Friction on different surfaces / different shoes</p> <p><u>Links to:</u> DT – structures and levers, gears and pulleys project</p> 
	<p style="text-align: center; color: red; font-weight: bold;">Electricity</p> 		<p>Year B:</p> <ul style="list-style-type: none"> • identify common appliances that run on electricity • construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers • identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery • recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit • recognise some common conductors and insulators, and associate metals with being good conductors. <p><u>Children will use scientific skills to investigate:</u> Investigation into conductors and insulators</p> 	<p>Year A:</p> <ul style="list-style-type: none"> • associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit • compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches • use recognised symbols when representing a simple circuit in a diagram. <p><u>Children will use scientific skills to investigate:</u> Investigate how different switches work – design and make their own switch Light sources – using dataloggers Constructing circuits for different jobs</p> <p><u>Links to:</u> DT – Electrical systems project</p> 

		EYFS (Wellsprings objectives)	Year 1 and Year 2	Year 3 and Year 4	Year 5 and Year 6
WORKING SCIENTIFICALLY SKILLS	PLAN	Planning <ul style="list-style-type: none"> ask questions about what they have seen or experienced. 	<ul style="list-style-type: none"> asking simple questions and recognising that they can be answered in different ways 	<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 	<ul style="list-style-type: none"> planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
	DO	Observing <ul style="list-style-type: none"> comment on similarities and differences e.g. between natural environments at school, materials, seasons or living things. with support, use simple equipment to make observations 	<ul style="list-style-type: none"> observing closely, using simple equipment performing simple tests identifying and classifying 	<ul style="list-style-type: none"> making systematic and careful observations and where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers 	<ul style="list-style-type: none"> taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate
		Recording <ul style="list-style-type: none"> children to record their observations and findings. 	<ul style="list-style-type: none"> gathering and recording data to help in answering questions 	<ul style="list-style-type: none"> gathering, recording, classifying and presenting data in a variety of ways to help in answering questions recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables 	<ul style="list-style-type: none"> recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
	REVIEW	Concluding <ul style="list-style-type: none"> begin to use what they have observed and experienced to answer questions children use the senses to comment on what they have seen or experienced. 	<ul style="list-style-type: none"> using their observations and ideas to suggest answers to questions 	<ul style="list-style-type: none"> reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings 	<ul style="list-style-type: none"> reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.
		Evaluating			<ul style="list-style-type: none"> using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.

Children will carry out investigations involving different types of enquiry:



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- Comparative/fair testing
- Research
- Observation over time
- Pattern seeking
- Identifying, grouping and classifying
- Problem solving

Overview of Curriculum:

	T1	T2	T3	T4	T5	T6
Year 1/2 A	Living things and their habitats		Materials and their properties		Plants	
Year 1/2 B	Animals including humans		Everyday Materials		Plants	
Year 3/4 A	Light	Sound	Rocks	Plants	Living Things and their habitats	
Year 3/4 B	Animals Including Humans		Forces and Magnets	Electricity	States of Matter	
Year 5/6 A	Animals Including Humans	Forces and Magnets	Light	Electricity	Living Things and their habitats	Working scientifically focus
Year 5/6 B	Earth and Space		Properties and changes of materials		Living Things and their habitats	Evolution and inheritance