



Coddington C of E

Primary and Nursery School

Science Progression Document

Key Areas	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Working Scientifically							
Observation over time	<p>Know that observation is a key skill of a scientist.</p> <p>Know that comparisons can be made through observation.</p>	<p>Know that changes can be recorded through observation.</p> <p>Know that observations can be made using simple equipment.</p>	<p>Know that equipment can be selected to observe change over time.</p> <p>Know that observations can be measured.</p>	<p>Know that observations need to be careful and systematic.</p> <p>Know that measurements can be taken using a range of equipment.</p> <p>Know that a range of bar charts, tables and pictograms are used to show measurements.</p>	<p>Know that choices can be made on what to observe and how to measure it.</p> <p>Know that standard units of time in minutes and seconds can be used when accurately observing.</p>	<p>Know that repeated and precise recordings must be taken.</p> <p>Know that data can be gathered, recorded, classified and presented in a variety of ways which include scientific diagrams and labels, keys, graphs and tables.</p>	<p>Know that observations require: identifying the measurements required, selecting the equipment needed and taking precise readings.</p> <p>Know that the correct units must be used when measuring accurately and precisely.</p> <p>Know that the interval and range can be taken from a set of observations.</p>

Comparative and fair testing	<p>Know that we can investigate different areas of science practically.</p> <p>Know that objects, materials and living things can be explored scientifically.</p>	<p>Know that simple tests can be carried out with support.</p> <p>Know that predictions can be made.</p>	<p>Know that simple tests can be carried out independently.</p> <p>Know that explanations can be made based on what has happened during an investigation.</p>	<p>Know that comparative tests can be carried out.</p> <p>Know that an investigation includes simple, practical enquiries.</p>	<p>Know that fair tests can be carried out.</p> <p>Know that there is more than one variable factor.</p>	<p>Know that results can lead to further prediction and the design of further comparative tests.</p> <p>Know that some variables need to be controlled.</p> <p>Know that methods can be improved.</p>	<p>Know that there are explanations behind needing to control variables.</p> <p>Know that there are reasons for improving methods.</p>
Identifying and classifying	<p>Know that living and non-living things can be classified.</p>	<p>Know that living and non-living things can be classified and compared.</p>	<p>Know that living and non-living things can be classified and compared through methods of sorting and grouping.</p>	<p>Know that identified criteria will determine how living and non-living things are classified.</p> <p>Know that keys can be used when grouping, sorting and classifying.</p>	<p>Know that scientific ideas and processes determine how living and non-living things are classified and sorted.</p>	<p>Know that detailed classification models can be used to sort living and non-living things.</p>	<p>Know that own classification methods can be chosen and developed in order to sort living and non-living things.</p>
Pattern Seeking	<p>Know that patterns exist within scientific phenomena.</p>	<p>Know that patterns can be identified within scientific phenomena.</p>	<p>Know that relationships can be identified within scientific phenomena.</p>	<p>Know that patterns can be naturally occurring.</p> <p>Know that conclusions can be formed based on findings.</p>	<p>Know that patterns can be identified in results.</p> <p>Know that patterns can be identified through data collection.</p>	<p>Know that causal relationships can be identified.</p> <p>Know that data can be interpreted to find patterns.</p>	<p>Know that patterns can be found in the natural environment.</p> <p>Know that evidence can support / refute causal relationships.</p>
Research using secondary	<p>Know that questions can be asked to find answers.</p>	<p>Know that simple secondary sources can be used to find</p>	<p>Know that questions can be researched to find answers.</p>	<p>Know that questions can be researched to find</p>	<p>Know that answers to questions using secondary sources</p>	<p>Know that research can be presented in different formats.</p>	<p>Know that research can be presented using different</p>

sources		answers.		answers using secondary sources.	can be reported in different ways.		formats, selecting the best format for the information being shared.
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Biology

Plants	<p>Know that plants grow and are usually green.</p> <p>Know that we use plants for food.</p> <p>Know that plants change as they grow.</p>	<p>Know that plants can grow in different places.</p> <p>Know that there are deciduous and evergreen trees</p> <p>Know that flowering plants and trees have a basic structure.</p>	<p>Know that plants grow from seeds and bulbs.</p> <p>Know that plants grow and mature.</p> <p>Know that plants need water, light and suitable temperature to grow and stay healthy.</p>	<p>Know that different parts of plants have different functions.</p> <p>Know that the requirements for life vary from plant to plant.</p> <p>Know that water is transported within plants.</p> <p>Know that plants have a life cycle.</p> <p>Know that pollination, seed dispersal and seed formation play a role in the life cycle.</p>			
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Animals including humans	<p>Know that changes occur when animals grow.</p>	<p>Know that there are a variety of different common animals and there are differences between</p>	<p>Know that animals, including humans, have offspring which grow into adults.</p>	<p>Know that animals, including humans, need the right types and amount of nutrition and</p>	<p>Know that the basic parts of the human digestive system have specific functions.</p>	<p>Know that there are changes in humans as they get to old age.</p>	<p>Know that the main parts of the human circulatory system each have a specific function.</p>
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		<p>them.</p> <p>Know that there are basic parts of the human body.</p> <p>Know that there are differences between carnivores, herbivores and omnivores.</p>	<p>Know that humans and animals have basic needs for survival.</p> <p>Know that exercise is important for humans.</p> <p>Know that hygiene is important for humans.</p> <p>Know that eating the right amounts of different types of foods is important.</p>	<p>cannot make their own food.</p> <p>Know that humans and some other animals have skeletons and muscles for support, protection and movement.</p>	<p>Know that there are different types of teeth in humans and their different functions.</p> <p>Know that there is a difference between producers, prey and predators which can be shown in a food chain.</p>		<p>Know that diet, exercise, drugs and lifestyle all have an impact on the way bodies function.</p> <p>Know that nutrients and water are transported within animals, including humans.</p>
<p>Living things and their habitats (EYFS, Year 2, Year 4, Year 5 and Year 6)</p> <p>Seasonal Changes (EYFS and Year 1)</p> <p>Evolution and inheritance (Year 6 only)</p>	<p>Know that living things have similarities and differences.</p> <p>Know that the features of their own immediate environment might vary from one another.</p>	<p>Know that the weather and environment changes across the four seasons.</p> <p>Know that day length varies.</p>	<p>Know that something that is living, dead or never been alive has different characteristics.</p> <p>Know that different habitats provide for different needs including microhabitats.</p> <p>Know that animals and plants depend on each other.</p> <p>Know that animals obtain their food from plants and</p>		<p>Know that living things can be grouped into a variety of ways.</p> <p>Know that classification keys can be used to identify living things.</p> <p>Know that environmental change can pose a danger to living things.</p>	<p>Know that life cycles are different between mammals, amphibians, insects and birds.</p> <p>Know that reproduction is a life process in plants and animals.</p>	<p>Know that living things can be classified into broad groups including microorganisms, plants and animals using characteristics.</p> <p>Know that fossils provide information about living things that inhabited the earth millions of years ago.</p> <p>Know that living things produce offspring of the same kind but they</p>

			<p>other animals.</p> <p>Know that a food chain can show about different sources of food.</p>				<p>are not identical to their parents.</p> <p>Know that animals and plants are adapted to suit their environment.</p> <p>Know that adaptation may lead to evolution.</p>
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Chemistry

<p>Use of everyday Materials (Properties and changes - States of Matter)</p> <p>Rocks (Year 3 only)</p>	<p>Know that there are similarities and differences in relation to materials and objects.</p> <p>Know that some solids melt.</p> <p>Know that some liquids freeze.</p> <p>Know that some things feel warm and others feel cold.</p>	<p>Know that there is a difference between an object and the material from which it is made like wool and jumpers.</p> <p>Know that there are a variety of different everyday materials, including wood, plastic, glass, metal, water and rock.</p> <p>Know that everyday materials have varied physical properties and can be grouped using these..</p>	<p>Know that some materials including wood, metal, plastic, glass, brick, rock, paper and cardboard are more suitable for a specific task than others.</p> <p>Know that the shape of solid objects from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>Know that there are different kinds of rocks that can be grouped based on their appearance and physical properties.</p> <p>Know that fossils are formed when things that have lived are trapped within rock.</p> <p>Know that soils are made from rocks and organic matter.</p>	<p>Know that objects can be described by their states of matter - solids, liquids and gases.</p> <p>Know that some materials change state when they are heated or cooled.</p> <p>Know that temperature can be measured in Degrees Celsius.</p> <p>Know that evaporation and condensation are part of the water cycle.</p>	<p>Know that everyday materials can be grouped together based on their properties (hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets).</p> <p>Know that, using knowledge of solids, liquids and gases, those mixtures might be separated by filtering, sieving or evaporating.</p> <p>Know that there are</p>	
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						<p>particular uses of everyday materials including metals, woods and plastics.</p> <p>Know that there are reversible changes.</p> <p>Know that there are irreversible changes.</p>	
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Physics

<p>Light (Year 3 and 6)</p> <p>Sound (Year 4 only)</p>				<p>Know that light is needed in order to see things.</p> <p>Know that dark is the absence of light.</p> <p>Know that light from the sun can be dangerous and that eyes need protection.</p> <p>Know that objects can be described as opaque, translucent and transparent.</p> <p>Know that shadows are formed when light is blocked by an opaque object.</p>	<p>Know that sounds are made by vibrations.</p> <p>Know that vibrations from sounds travel through a medium to the ear.</p> <p>Know that there are patterns between the pitch of a sound and features of the object that produced it.</p> <p>Know that there are patterns between the volume of a sound and strength of the vibrations of the object that produced it.</p>		<p>Know that light appears to travel in straight lines.</p> <p>Know that objects are seen because they give out or reflect light.</p> <p>Know that we see because light travels from light sources, to objects to our eyes.</p> <p>Know that shadows have a similar shape to the objects that cast them.</p>
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				Know that shadows can change in size and spot patterns related to this.	Know that sounds get fainter as the distance from the sound source increases.		
Forces and Magnets	<p>Know that distance and speed can be related.</p> <p>Know that they can change the speed of an object.</p>			<p>Know that things move differently on different surfaces.</p> <p>Know that some forces need contact between two objects.</p> <p>Know that magnetic forces can act at a distance.</p> <p>Know that magnets attract and repel each other.</p> <p>Know that magnets attract some materials and not others.</p> <p>Know that magnets have two poles.</p> <p>Know that magnets will attract or repel each other.</p>		<p>Know that unsupported objects fall to Earth because of gravity.</p> <p>Know that air resistance, water resistance and friction will affect how objects move between surfaces.</p> <p>Know that mechanisms including levers, pulleys and gears allow a smaller force to have a larger effect.</p>	
Electricity (Year 4 and 6)					Know that common appliances rely on electricity.		Know that the brightness of a bulb or loudness of a

<p>only)</p>					<p>Know that there are basic parts of a series circuit including cells, wires, bulbs, switches and buzzers.</p> <p>Know that there are reasons that a lamp will or will not light in a series circuit.</p> <p>Know that a switch opens and closes a circuit.</p> <p>Know that some materials are conductors or insulators.</p>		<p>buzzer is associated with the voltage in the circuit.</p> <p>Know that there are variations in how components function.</p> <p>Know that symbols are used when representing a simple circuit in a diagram.</p>
<p>Earth and Space</p>	<p>Know that there is a sun and moon.</p> <p>Know that we live on earth.</p>					<p>Know that the movements of the Earth and other planets are relative to the sun in the solar system.</p> <p>Know that the movement of the moon is relative to the Earth.</p> <p>Know that the sun, moon and Earth are approximately spherical bodies.</p>	

						Know that the Earth's rotation creates day and night and the apparent movement of the sun across the sky.	
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