

West Green Primary Science Topics Progression

Materials						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>I can use all my senses when exploring natural materials.</p> <p>I can explore collections of materials with similar and different properties.</p> <p>I can talk about the differences between materials and the changes I notice.</p>	<p>I can say which material objects are made from.</p> <p>I can name different everyday materials such as: wood, plastic, glass, metal, water and rock.</p> <p>I can describe simple properties of everyday materials.</p> <p>I can compare and group different everyday materials on the basis of their physical properties.</p>	<p>I can talk about and compare the suitability of different everyday materials, including: wood, plastic, glass, metal, brick, paper, cardboard, water and rock, for particular uses.</p> <p>I can find out how the shapes of solid objects can be changed by squashing, bending, twisting and stretching.</p>		<p>I can compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>I can 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.</p> <p>I can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p>I can compare and group everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal) and their response to magnets.</p> <p>I know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p> <p>I use my knowledge of solids, liquids and gases to decide how mixtures might be separated, through filtering, sieving and evaporating.</p> <p>I can give reasons, using evidence from comparative and fair tests, for everyday materials, including metal, wood and plastic.</p> <p>I can demonstrate that dissolving, mixing and changes of state</p>	

					<p>are reversible changes.</p> <p>I can explain that some changes result in the formation of new materials, and that this change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.</p>	
Seasonal Changes						
<p>I understand the effect of the changing seasons on the world around me.</p>	<p>I can observe the changes across the 4 seasons.</p> <p>I can observe and describe the weather that links to the seasons, as well as how the day varies.</p>					
Plants						
<p>I can plant seeds and care for growing plants.</p> <p>I can understand the key parts of the life cycle of plants.</p>	<p>I can identify and name a variety of common wild and garden plants, which include deciduous and evergreen trees.</p> <p>I can identify and describe the basic structure of a variety of flowering plants and trees.</p>	<p>I can observe and describe how seeds and bulbs grow into mature plants.</p> <p>I can find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p>I can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</p> <p>I can explore the requirements of plants for life and growth (air, light, water, nutrients from soil and room to grow) and how they vary between plants.</p> <p>I can investigate the way in which water is</p>			

			transported within plants. I can explore the part flowers play in their life cycle, including: pollination, seed formation and seed dispersal.			
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Animals including humans

<p>I can understand the key parts of the life cycle of an animal.</p>	<p>I can identify and name a variety of common animals – fish, amphibians, reptiles, birds and mammals.</p> <p>I can identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>I can describe and compare the structure of a variety of common animals (above animals, including pets).</p> <p>I can identify, name, draw and label the basic parts of the human body and say which part is associated with each of the senses.</p>	<p>I notice that animals, including humans, have offspring that grow into adults.</p> <p>I find out about and describe the basic needs of animals, including humans, for survival.</p> <p>I can describe the importance for humans eating the right amounts of different types of food, as well as hygiene.</p>	<p>I can identify that animals, including humans, need the right types and amounts of nutrition. I understand they cannot make their own food and that they get nutrition from what they eat.</p> <p>I can identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>	<p>I can describe the simple functions of the basic parts of the digestive system in humans.</p> <p>I can identify the different types of teeth in humans and their simple functions.</p> <p>I can construct and interpret a variety of food chains, identifying producers, predators and prey.</p>	<p>I can describe the changes as humans develop to old age.</p>	<p>I can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</p> <p>I can recognise the impact of diet, exercise, drugs and lifestyle on the body's functions.</p> <p>I can identify how animals and plants are adapted to suit their environment and that adaptation may lead to evolution.</p> <p>I recognise that living things have changed over time and that fossils provide information about living things that lived millions of years ago.</p> <p>I recognise that living things produce offspring of the same</p>
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						kind, but normally vary and are not identical to their parents.
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Living things and their habitats

<p>I understand the need to respect and care for the natural environment and all living things.</p> <p>I can talk about what I see, using lots of words.</p> <p>I can explore the natural world around me.</p>		<p>I can explore and compare the differences between things that are living, dead, and have never been alive.</p> <p>I can identify most living things live in habitats, which they are suited to. I can describe how different habitats provide the basic needs for different animals and plants, and how they depend on each other.</p> <p>I can identify and name a variety of plants and animals in habitats, including microhabitats.</p> <p>I can describe how animals obtain their food, using simple food chains, and identify and name different sources of food.</p>		<p>I can recognise that living things can be grouped in a variety of ways.</p> <p>I can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>I recognise that environments can change and that this can sometimes pose dangers to living things.</p>	<p>I can describe the differences I the life cycles of a mammal, amphibian, insect and bird.</p> <p>I can describe the life process of reproduction in some plants and animals.</p>	<p>I can describe how living things are classified into broad groups according to common observable characteristics and based on similarities.</p>
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Forces and magnets

<p>I can explore and talk about different forces I can feel.</p>			<p>I can compare how things move on different surfaces.</p>		<p>I can explain that unsupported objects fall towards the Earth because of the force of gravity acting</p>	
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			<p>I notice that some forces need contact between 2 objects but magnetic forces act at a distance.</p> <p>I can observe how magnets attract or repel each other and attract some materials and not others.</p> <p>I can compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet and identify magnetic materials.</p> <p>I can describe magnets as having 2 poles.</p> <p>I can predict whether 2 magnets will attract or repel each other, depending on which poles are facing.</p>		<p>between the Earth and the falling object.</p> <p>I can identify the effects of air resistance, water resistance and friction, that act between moving surfaces.</p> <p>I recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>	
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Light						
			<p>I recognise that we need light in order to see things and that darkness is the absence of light.</p> <p>I notice that light is reflected from surfaces.</p> <p>I recognise that light from the sun can be</p>			<p>I can recognise that light appears to travel in straight lines.</p> <p>I can use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into our eye.</p>

			<p>dangerous and that there are ways to protect my eyes.</p> <p>I recognise that shadows are formed when light from a light source is blocked by a solid object.</p> <p>I can find patterns in the way that the size of shadows changes.</p>			<p>I can 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.</p> <p>I can use the idea that light travels in straight lines to explain why shadows have the same shape as objects that cast them.</p>
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Rocks

			<p>I can compare and group together different kinds of rocks, using their appearance and simple physical properties.</p> <p>I can simply describe how fossils are formed when things that have lived are trapped within rock.</p> <p>I recognise that soils are made from rocks and organic matter.</p>			
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Sound

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				<p>sounds travel through a medium to the ear.</p> <p>I can find patterns between the pitch of a sound and features of the object that produced it.</p> <p>I can find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>I recognise that sounds get fainter as the distance from the sound source increases.</p>	
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Earth and space

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					and the apparent movement of the sun across the sky.	
Electricity						
				<p>I can identify common appliances that run on electricity.</p> <p>I can construct a simple series circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>I can 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.</p> <p>I can recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>I can recognise some common conductors and insulators, and associate metals with being good conductors.</p>		<p>I can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used within a circuit.</p> <p>I can compare and give reasons for variations in how components function, including the above, and the on/off position of switches.</p> <p>I can use recognised symbols when creating a simple circuit in a diagram.</p>

Early Years exploration and learning will also be guided by the children's interests, giving the children a foundation to begin to build their scientific understanding, ready for the differing topics they will encounter, when they move up the school.