



Westlands First School Science Progression Document 2019 – 2020



Science Quick Overview

BIOLOGY

CHEMISTRY

PHYSICS

Year 1	Animals inc Humans Name common animals Name carnivores, herbivores, omnivores	Seasonal Change Observe weather and changes across seasons	Plants Name basic parts— identify common plants	Everyday Materials Name. Describe and sort everyday materials		
Year 2	Animals inc Humans Animals have offspring, basic needs for survival. Importance of exercise, food hygiene.	Animals inc Habitats Living, dead and never living, describe habitats, basic food chains	Plants Seed/bulb grow into plants. What plants need	Materials and their uses Uses of materials Changing shape of materials		
Year 3	Animals inc Humans Need for right amount of nutrition Skeletons and muscles		Plants Function - including how water is transported Life cycle of plants	Rocks Group different rocks, how they are formed Fossils	Light Need for light to see. How shadows are formed	Forces and Magnets Compare different surfaces. Magnets
Year 4	Animals inc Humans Basic function of digestive system. Teeth. Food chains	Animals inc Habitats Group living things, use classification keys. Change in environment can threaten life.		States of matter Solids, Liquids, gases Change state, Evaporation/condensation	Sound How sound is made, travels. Pitch and volume	Electricity Create simple and series circuits. Parts of circuit. Recognise complete/incomplete circuit linked to output e.g bulb. Test conductivity/insulators



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EYFS Science Progression.						
0-11 Months	8-20 Months	16-26 Months	22-36 Months	30-50 Months	40-60 Months	Characteristics of Effective Learning Links
<p>Looks around with interest.</p>	<p>Closely observes what people, animals and vehicles do.</p> <p>Knows things are used in different ways e.g. pushing and pulling</p>	<p>Explores objects by linking together different approaches: shaking, hitting, looking, feeling, tasting, pulling, turning and poking.</p>	<p>Notices detailed features of their environment.</p> <p>Enjoys playing with small world.</p>	<p>Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world.</p> <p>Can talk about things they have observed such as plants, animals and natural objects they have found.</p> <p>Talks about why things happen and how they work. Developing an understanding of growth, decay and changes over time.</p> <p>Shows care and concern for living things and the environment.</p>	<p>To eat a healthy range of foodstuffs and understand a need for variety in food.</p> <p>To show some understanding that good practices with regard to exercise, eating, sleeping and hygiene can contribute to good health.</p> <p>To look closely at similarities, differences, patterns and change.</p> <p>To know the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe.</p> <p>To know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another.</p>	<p>Using senses to explore the world around them</p> <p>Taking risks and learning by trial and error</p> <p>Showing a curiosity about objects, events and people</p> <p>Maintaining focus on their activity for a period of time Thinking of ideas</p> <p>Finding ways to solve problems</p> <p>Making links and noticing patterns in their experience</p> <p>Making predictions</p> <p>Testing their ideas</p> <p>Developing ideas of grouping, sequences cause and effect</p>



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	Key Stage 1		Key Stage 2	
	Year 1	Year 2	Year 3	Year 4
Plants	<p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees</p>	<p>Observe and describe how seeds and bulbs grow into mature plants</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</p>	<p>identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <p>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</p> <p>investigate the way in which water is transported within plants</p> <p>explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	
Animals including Humans	<p>Identify and name a variety of common animals including; fish, amphibians, reptiles, birds and mammals</p> <p>Identify and name a variety common animals that are carnivores, herbivores and omnivores</p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</p> <p>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>	<p>Notice that animals, including humans, have offspring which grow into adults</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene</p>	<p>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</p> <p>identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>	<p>describe the simple functions of the basic parts of the digestive system in humans</p> <p>identify the different types of teeth in humans and their simple functions</p> <p>construct and interpret a variety of food chains, identifying producers, predators and prey.</p>



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<p>Everyday materials</p>	<p>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>	<p>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>		
<p>Seasonal changes</p>	<p>Observe changes across the four seasons Observe and describe weather associated with the seasons and how day length varies</p>			
<p>Living things and their Habitat</p>		<p>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</p>		<p>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>



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		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		
Rocks and Soils			<p>compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>describe in simple terms how fossils are formed when things that have lived are trapped within rock</p> <p>recognise that soils are made from rocks and organic matter.</p>	
Light			<p>recognise that they need light in order to see things and that dark is the absence of light</p> <p>notice that light is reflected from surfaces</p> <p>recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>recognise that shadows are formed when the light from a light source is blocked by a solid object</p> <p>find patterns in the way that the size of shadows change.</p>	
Forces and Magnetism			<p>compare how things move on different surfaces</p> <p>notice that some forces need contact between 2 objects, but magnetic forces can act at a distance</p> <p>observe how magnets attract or repel each other and attract some materials and not others</p> <p>compare and group together a variety of everyday materials on the basis of whether they are attracted to a</p>	



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			<p>magnet, and identify some magnetic materials</p> <p>describe magnets as having 2 poles</p> <p>predict whether 2 magnets will attract or repel each other, depending on which poles are facing.</p>	
Sound				<p>identify how sounds are made, associating some of them with something vibrating</p> <p>recognise that vibrations from sounds travel through a medium to the ear</p> <p>find patterns between the pitch of a sound and features of the object that produced it</p> <p>find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>recognise that sounds get fainter as the distance from the sound source increases</p>
Electricity				<p>identify common appliances that run on electricity</p> <p>construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <p>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>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>recognise some common conductors and insulators, and associate metals with being good conductors.</p>
States of matter				<p>compare and group materials together, according to whether they are solids, liquids or gases</p>



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				<p>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)</p> <p>identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>
Monitoring Notes				
Working Scientifically	<p>Ask simple questions and recognise that they can be answered in different ways</p> <p>Use simple equipment to observe closely</p> <p>Identify and classify</p> <p>Use observations and ideas to suggest answers to questions. Gather and record data to help in answering questions</p>	<p>Ask simple questions and recognise that they can be answered in different ways including use of scientific language from the national curriculum.</p> <p>Use simple equipment to observe closely including changes over time.</p> <p>Perform simple comparative tests.</p> <p>Identify group and classify</p> <p>Use his or her observation and ideas to suggest answers to questions noticing similarities, difficulties and patterns</p> <p>Gather and record data to help in answering questions including from secondary sources of information.</p>	<p>asking relevant questions and using different types of scientific enquiries to answer them</p> <p>Setting up simple practical enquiries, comparative and fair test.</p> <p>making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <p>gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</p> <p>reporting on findings from enquiries, including oral and written explanations, displays or</p>	<p>asking relevant questions and using different types of scientific enquiries to answer them</p> <p>Setting up simple practical enquiries, comparative and fair test.</p> <p>making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <p>gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</p> <p>reporting on findings from enquiries, including oral and written explanations, displays or</p>



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			<p>presentations of results and conclusions</p> <p>recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p> <p>using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>identifying differences, similarities or changes related to simple scientific ideas and processes</p> <p>using straightforward scientific evidence to answer questions or to support their findings</p>	<p>presentations of results and conclusions</p> <p>recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p> <p>using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>identifying differences, similarities or changes related to simple scientific ideas and processes</p> <p>using straightforward scientific evidence to answer questions or to support their findings</p>
Monitoring Notes				

Coverage Key	Term
	Autumn
	Spring
	Summer