LEIGHSWOOD SCHOOL Wonder Investigate Learn Discover

Leighswood Curriculum Progression Map - Science

Level Expected at the end of EYFS	Key Stage 1 National Curriculum Expectations	Key Stage 2 National Curriculum Expectations
Early Learning Goals **Understanding about the world** Children 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. They make observations of animals and plants and explain why some things occur, and talk about changes. **Health and self-care** Children know the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe.	**Pupils should be taught to:** use practical scientific methods, processes and skills including: - 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 to help them engage with, understand and explore topics including plants, animals and seasons. In doing so, children should be able to understand more about the world around them and apply their knowledge to their daily lives.	**Pupils should be taught to:** use a range of practical scientific methods, processes and skills which can be split into upper and lower key stage 2: Years 3 and 4: - asking relevant questions and using different types of scientific enquiries to answer them; - setting up simple practical enquiries, comparative and fair tests; - making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers; - 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; - reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions; - using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions; - identifying differences, similarities or changes related to simple scientific ideas and processes; using straightforward scientific evidence to answer questions or to support their findings. Years 5 and 6 - planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary; - taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate; - recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs; - using test results to make predictions to set up further comparative and fair tests; - reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations; - identifying scientific evidence that has been used to support or refute ideas or arguments. In doing so, children will be able to understand more about the world about them including what came before now and what might come next.

Intent

At Leighswood we want to develop in all young people a lifelong curiosity and interest in the sciences. Science at Leighswood should promote opportunities, where possible, for children to learn through varied investigations, leading them to be equipped for life to ask and answer scientific questions about the world around them. As children progress through year groups, they build on their skills working scientifically, as well as on their scientific knowledge, as they develop greater independence in planning and carrying out fair and comparative tests to answer a range of questions. As children move throughout Leighswood school, children will consolidate and build upon previous learning, using key scientific vocabulary. They will be exposed to a varied and progressive science curriculum that provides the opportunity to investigate the full breadth of the national curriculum.

Implementation

At Leighswood, we want children to lead the way in investigating the world. Scientific knowledge and enquiry skills are at the heart of the science curriculum. The Science curriculum at Leighswood aims to promote exploration and enquiry by children to help underpin the facts. The acquisition of key scientific knowledge is an integral part of our science lessons. Children will learn, use and apply new vocabulary and use this to build on their knowledge within each unit. The progression of skills for working scientifically are developed through each year and children will be encouraged to develop their independence in creating and leading investigations, being as hands on as possible to understand the world and make sense of the information they are learning. Scientific knowledge and enquiry skills are developed with increasing depth and challenge as children move through year groups. Teachers take into consideration previous learning, reviewing this when necessary, and evaluate children's understanding for each unit.

Impact

We want to create scientists motivated to investigate the world around them.

At Leighswood, we want to our scientists to know more, remember more and explain more. Understanding of concepts and a grasp of scientific knowledge and vocabulary will be assessed via investigations and work within science lessons. Assessment of working scientifically is monitored by teachers observing how children create, develop and carry out investigations, recording their findings and evaluating their methods. Pre-unit assessments will allow teachers to identify children's existing knowledge, find misconceptions and pitch new learning accordingly. The school learning environment will encourage the use of science technical vocabulary to be spoken and be used by all children, developing each year. We believe that children who feel confident in their science knowledge and enquiry skills will be excited by science, show they are actively curious and see the relevance of what they are learning in the real world.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animals including humans		**Children can:**	**Children can:**	**Children can**:	**Children can:**	**Children can**:	**Children can:**
		- Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.	- Notice that animals, including humans, have offspring which grow into adults	- Identify that animals, including humans, need the right types of nutrition – they cannot make their own	- Tell you about the functions of parts of the human digestive system	- Describe how humans change as they age	- Identify and name parts of the circulatory system and describe the functions of the heart, lungs, blood vessels and blood
		- Identify and name a variety of common animals that are carnivores, herbivores and omnivores	- Find out about and describe the basic needs of animals, including humans, for survival (food/ water/ air)	- Identify that humans and some other animals have a skeleton, identifying parts of the skeleton and naming their use	- Identify the different types of teeth in humans and their simple functions		- Explain the effect diet, drugs and exercise can have on the human body
		- Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)	- Describe the importance for humans to - Exercise - Eat a healthy diet - Stay clean (hygiene)		- Create a food chain, identifying producers, predators and prey		- Describe the way nutrients and water are transported within animals, including humans
		- Identify, name and draw basic parts of the human body and say which part is associated with each sense					
		use key vocabulary to demonstrate knowledge and understanding in this strand: common animals- fish, amphibians, reptiles, birds, mammals, pets senses- tongue= taste, nose= smell, eyes=vision, skin= touch, ears= hearing body parts- head, legs, eyes, neck, knees, hair, arms, face, mouth, elbows, ears, teeth omnivores- meat and plants, badger, human, bear, chickens carnivores- meat, cat, dog, lion, tiger, fox, shark, killer, whale, eagle, hawk, snake, t-rex	**use key vocabulary to demonstrate knowledge and understanding in this strand:** offspring, grow, adults, egg, caterpillar, pupa, butterfly, spawn, tadpole, frog, lamb, sheep, baby, toddler, child, teenager, adult, egg, chick, chicken, survival- water, food, air, exercise, hygiene nutrition, reproduce	**use key vocabulary to demonstrate knowledge and understanding in this strand:** nutrition, nutrients, carbohydrates, protein, fats, fibre, water, vitamins, minerals, skeleton, bones, joints, endoskeleton, exoskeleton, hydrostatic, vertebrate, invertebrate, contract, relax, muscles, ball joint, socket joint, hinge joint, gliding joint	**use key vocabulary to demonstrate knowledge and understanding in this strand:** support, protection, skull, brain, ribs, heart, lungs, movement, pull, contract, diet	**use key vocabulary to demonstrate knowledge and understanding in this strand:** puberty, life cycle, gestation, growth, reproduce, foetus, baby, fertilisation, toddler, child, teenager, adult, old age, life expectancy, adolescence, adulthood, early adulthood, middle adulthood, late adulthood, childhood	**use key vocabulary to demonstrate knowledge and understanding in this strand:** internal organs, heart, lungs, liver, kidney, brain, skeletal, muscular, digest, digestion, blood vessels, blood, impact, diet, exercise, drugs, lifestyle, nutrients, damage, drugs, alcohol, substances, circulatory system

LIVING THINGS AND THEIR HABITATS							
Living things and their habitats		***Year 1***	***Year 2***	***Year 3***	***Year 4***	***Year 5***	***Year 6***
		Children can:	**Children can:**	**Children can:**	**Children can:**	**Children can:**	**Children can:**
			- Explore and compare the differences between things that are living, dead and things that have never been alive		- Recognise that living things can be grouped in a variety of ways	- Describe the differences in the life cycle of a mammal, an amphibian, an insect and a bird	- Describe how living things are classified into broad groups according to common observable characteristics . including micro-organisms, plants and animals
			- 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		- Explore and use classification keys to help group, identify and name a variety of things in their local environment and wider world	- Describe the life process of reproduction in some plants and animals	- Give reasons for classifying plants and animals based on specific characteristics
			- Identify and name a variety of plants and animals in their habitats		- **R**ecognise that environments can change and this can sometimes pose a danger to living things		
			- Discuss micro-habitats				
			- Describe how animals and humans get their food- using a simple food chain , naming different sources of food				
			use key vocabulary to demonstrate knowledge and understanding in this strand: living, dead, never alive, habitats, micro-habitats, food, food chain, sun, grass, cow, human, alive, healthy, logs, leaf, litter, stony, bushes, shelter, seashore, woodland, ocean, rainforest, conditions, hot/warm/cold, dry/damp/wet, bright/shade/dark		**use key vocabulary to demonstrate knowledge and understanding in this strand:** environment, flowering, non-flowering, plants, animals, vertebrate, dangers, vertebrate= fish, amphibians, reptiles, birds, mammals invertebrate= snails, slugs, worms, spiders, insects plants= flowering plants (including grasses), non-flowering (including mosses and ferns) human impact- positive = nature reserves, ecologically planned parks, garden ponds negative= population, development, litter, deforestation	**use key vocabulary to demonstrate knowledge and understanding in this strand:** life cycles= mammal, amphibian, insect, bird life process of reproduction= plants, animals, vegetable garden, flowers animal naturalist- David Attenborough animal behaviourist- Jane Goodall reproduction= plants (sexual, asexual), animals= sexual lifecycles around the world= rainforest, ocean, desert prehistorica, similarities, differences	**use key vocabulary to demonstrate knowledge and understanding in this strand:** classify, compare, Linnaean, Carl Linnaeus, classification, domain, kingdom, phylum, class, order, family, genus, species, characteristics, microorganisms, organisms,

MATERIALS							
		Year 1	***Year 2***	***Year 3***	***Year 4***	***Year 5***	***Year 6***
Materials		**Everyday Materials** Children can:	**Uses of everyday Materials** Children can:	Children can:	**States of matter** Children can:	**Properties and changes of materials** Children can:	**Children can:**
		- Distinguish between an object and the material from which it is made	- Identify and compare the suitability of a range of everyday materials including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses		- Compare and group materials together, according to whether they are solids, liquids or gases	- Compare and group together everyday materials on the basis of their properties (hardness/ solubility/ transparency/ conductivity) and response to magnets	
		- Identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock	- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching		- Observe that some materials change state when they are heated, or cooled (and measure the temperature this happens)	- Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution	
		- Describe the simple physical properties of a variety of everyday materials			- Identify the part played by evaporation and condensation in the water cycle and associate the rates of this with temperature	- Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating	
		- Compare and group everyday materials on the basis of their simple physical properties			-	- Give reasons, based on evidence from comparative and fair testing, for the uses of everday 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 or acid on bicarb of soda	
		use key vocabulary to demonstrate knowledge and understanding in this strand: material= wood, plastic, glass, metal, water, rock, brick, paper, fabrics, elastic, foil, properties= hard/soft, stretchy/ stiff, shiny/dull, rough/smooth, bendy/ not bendy, waterproof/not, absorbent/ not	**use key vocabulary to demonstrate knowledge and understanding in this strand**: squashing, bending, twisting, stretching wood= matches, floors, telegraph poles John Dunlop= rubber Charles Macintosh- waterproof fabric John McAdam= macadamisation Metal= coins, cans, cars, table legs		**use key vocabulary to demonstrate knowledge and understanding in this strand:** solid, solidify, iron, ice, melt, freeze, liquid, evaporate, condense, gas, container, changing state, heated, heat, cooled, cool, degrees Celsius, thermometer, water cycle, evaporation, condensation, temperature, melting, warm/cool, water vapour	**use key vocabulary to demonstrate knowledge and understanding in this strand:** hardness, solubility, transparency, electrical conductor, thermal conductor, response to magnets, dissolve, solution, separate, reversible changes, dissolving, sieving, irreversible, burning, rusting, Spencer Silver, uth Benerito, quantitative, measurements, insulation, chemical	

PLANTS							
		YEAR 1	**YEAR 2**	**YEAR 3**	**YEAR 4**	**YEAR 5**	**YEAR 6**
Plants		**Children can**:	**Children can:**	**Children can:**	**Children can:**	**Children can:**	**Children can:**
		- Identify and name a variety of common wild and garden plants, including decidious and evergreen	- Observe and describe how seeds and bulbs mature into plants	- Identify and describe the functions of different parts of flowering plants- root/ stem/ trunk/ leaves/ flowers -			
		- Identify and describe the basic structure of a variety of common flowering plants, including trees	- Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	- Explore the requirements of plants for life and growth (air/ light/water/ nutrients from soil/ room to grow) and how these vary from plant to plant			
				- Investigate how water is transported in a plant			
				- Explore the part that flowers play in the life cycle of flowering plants- pollination, seed formation and dispersal			
		use key vocabulary to demonstrate knowledge and understanding in this strand: common plants= wild plants, garden plants, deciduous, evergreen plant= leaf, root, leaves, bud, flowers, blossom, petals, root, stem tree= deciduous, evergreen, trunk, branches, leaf, root fruit, vegetables, bulb, seed	**use key vocabulary to demonstrate knowledge and understanding in this strand:** grow, healthy, water, light, suitable, temperature, germination, reproduction,	**use key vocabulary to demonstrate knowledge and understanding in this strand:** structure= flowering plants, roots, stem/trunk, leaves, flowers function = nutrition, support, reproduction, makes its own food requirements for life and growth= air, light, water, nutrients from soil, room to grow, fertiliser life cycle= flowers pollination, seed formation, seed dispersal			

LIGHT							
		Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Light		**Children can:**	**Children can:**	**Children can:**	**Children can:**	**Children can:**	**Children can:**
				- Recognise they need light in order to see things and that dark is the absence of light			- **E**xplain that we see things because light travels from light sources to our eyes or from light source to objects then to our eyes
				- Notice that light is reflected from surfaces			- Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them
				- Recognise that light from the sun can be dangerous and that there are ways to protect their eyes			- Recognise that light appears to travel in straight lines
				- Recognise that shadows are formed when light from a light source is blocked by an opaque object - Find patterns in the way that the size of shadows change			- 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
				use key vocabulary to demonstrate knowledge and understanding in this strand: light, see, dark, reflect, surface, natural, star, sun, moon, shadow, blocked, solid, artificial, torch, candle, lamp, sunlight, dangerous, protection, eyes	:		**use key vocabulary to demonstrate knowledge and understanding in this strand:** travels, straight, light source, object, mirrors, periscope, rainbow, filters

FORCES AND MAGNETS							
		Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Forces and magnets		**Children can:**	**Children can:**	**Children can:**	**Children can:**	**Children can:**	**Children can:**
				- Compare how things move on different surfaces		- Explain that unsupported objects fall towards Earth because of the force of gravity acting between Earth and the falling object	
				- Notice that some forces need contact between 2 objects but magnetic forces can act at a distance		- Identify the effects of air resistance, water resistance and friction that act between moving surfaces	
				- Observe how magnets attract or repel each other and attract some materials and not others		- Recognise that some mechanisms include levers, pulleys and gears allow a smaller force to have a greater effect	
				- 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 they are facing			
				use key vocabulary to demonstrate knowledge and understanding in this strand: force, push, pull, open, surface, magnet, magnetic, attract, repel, magnetic poles, North, South		**use key vocabulary to demonstrate knowledge and understanding in this strand:** gravity, air resistance, water resistance, friction, force, effect, move, accelerate, decelerate, change direction, brake, mechanism, pulley, gear, spring, theory of gravity, Galileo Galilei, Isaac Newton	

ELECTRICITY						
Electricity						
	Children can:	**Children can:**	**Children can:**	**Children can:**	**Children can:**	**Children can:**
				- Identify common appliances that run on electricity		- Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
				- Construct a simple series electrical circuit, identifying and naming its basic parts including cells, wires, bulbs, switches and buzzers		- 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
				- 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		- Use recognised symbols when representing a simple circuit in a diagram
				- 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		
			:	**use key vocabulary to demonstrate knowledge and understanding in this strand:** appliances, electricity, electrical circuit, cell, wire, bulb, buzzer, danger, safety, sign, insulators= wood, rubber, plastic, glass conductors= metal, water switch= open, closed		**use key vocabulary to demonstrate knowledge and understanding in this strand:** voltage, brightness, volume, switches, series circuit, diagram, switch, motor, symbols

TOPICS THAT ONLY APPEAR IN ONE YEAR GROUP

		Year 1 ***SEASONAL CHANGES***			***Year 4*** ***SOUND***	***Year 5*** ***EARTH AND SPACE***	***Year 6*** ***EVOLUTION AND INHERITANCE***
		Children can:			**Children can:**	**Children can:**	**Children can:**
		- Observe changes across the 4 seasons			- Identify how sounds are made, associating some of them with something vibrating	- Describe the movement of the Earth and other planets relative to the sun in the solar system	- Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago
		- Observe and describe weather associated with the seasons and how day length varies			- Recognise that vibrations from sounds travel through a medium to the ear	- Describe the movement of the moon relative to the Earth	- Recognise that living things produce offspring of the same kind but normally offspring vary and are not identical to their parents
					- Find patterns between the pitch of sound and features of the object that produced it	- Describe the sun, Earth and moon as approximately spherical bodies	- Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution
					- Find patterns between the volume of a sound and the strength of the vibrations that produced it	- Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky	
					- Recognise that sounds get fainter as the distance from the sound source increases		
		use key vocabulary to demonstrate knowledge and understanding in this strand: season= summer, winter, autumn, spring, day, daytime weather= wind, rain, snow, hail, sleet, fog, sun, hot, warm, cold			**use key vocabulary to demonstrate knowledge and understanding in this strand:** vibrate, vibration, vibrating, air, medium, ear, hear, sound, volume, pitch, faint, loud, string, percussion, woodwind, brass, insulate	**use key vocabulary to demonstrate knowledge and understanding in this strand:** Earth, Sun, moon, planets, stars, solar system, Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, pluto, rotate, day, night, Aristotle, Ptolemy, Galileo, Copernicus, orbit, axis, spherical, heliocentric, geocentric, hemisphere, season, tilt	**use key vocabulary to demonstrate knowledge and understanding in this strand:** evolution, adaptation, inherited traits, adaptive traits, natural selection, inheritance, Charles Darwin, Alfred Wallace, DNA, genes, variation, parent, offspring, fossil, environment, habitat, fossilisation, plants, animals, living things

Working scientifically strands

	KS1	LKS2	UKS2
Asking Questions and Carrying Out Fair and Comparative Tests	**KS1 Science National Curriculum** Asking simple questions and recognising that they can be answered in different ways. Performing simple tests. Children can: a explore the world around them, leading them to ask some simple scientific questions about how and why things happen; b begin to recognise ways in which they might answer scientific questions; c ask people questions and use simple secondary sources to find answers; d carry out simple practical tests, using simple equipment; e experience different types of scientific enquiries, including practical activities; f talk about the aim of scientific tests they are working on; g with support, start to recognise a fair test.	**Lower KS2 Science National Curriculum** Asking relevant questions and using different types of scientific enquiries to answer them. Setting up simple practical enquiries, comparative and fair tests. Children can: a start to raise their own relevant questions about the world around them in response to a range of scientific experiences; b start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions; c recognise when a fair test is necessary; d help decide how to set up a fair test, making decisions about what observations to make, how long to make them for and the type of simple equipment that might be used; e set up and carry out simple comparative and fair tests.	**Upper KS2 Science National Curriculum** Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Using test results to make predictions to set up further comparative and fair tests. Children can: a with growing independence, raise their own relevant questions about the world around them in response to a range of scientific experiences; b with increasing independence, make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions; c explore and talk about their ideas, raising different kinds of scientific questions; d ask their own questions about scientific phenomena; e select and plan the most appropriate type of scientific enquiry to use to answer scientific questions; f make their own decisions about what observations to make, what measurements to use and how long to make them for, and whether to repeat them; g plan, set up and carry out comparative and fair tests to answer questions, including recognising and controlling variables where necessary; h use their test results to identify when further tests and observations may be needed; i use test results to make predictions for further tests.

Observing and Measuring Changes	**KS1 Science National Curriculum** Observing closely, using simple equipment. Children can: a observe the natural and humanly constructed world around them; b observe changes over time; c use simple measurements and equipment; d make careful observations, sometimes using equipment to help them observe carefully.	**Lower KS2 Science National Curriculum** Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Children can: a make systematic and careful observations; b observe changes over time; c use a range of equipment, including thermometers and data loggers; d ask their own questions about what they observe; e where appropriate, take accurate measurements using standard units using a range of equipment.	**Upper KS2 Science National Curriculum** Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Children can: a choose the most appropriate equipment to make measurements and explain how to use it accurately; b take measurements using a range of scientific equipment with increasing accuracy and precision; c take repeat readings when appropriate; d understand why we take an average in repeat readings.
Identifying, Classifying, Recording and Presenting Data	**KS1 Science National Curriculum** Identifying and classifying. Gathering and recording data to help in answering questions. Children can: a use simple features to compare objects, materials and living things; b decide how to sort and classify objects into simple groups with some help; c record and communicate findings in a range of ways with support; d sort, group, gather and record data in a variety of ways to help in answering questions such as in simple sorting diagrams, pictograms, tally charts, block diagrams and simple tables.	**Lower KS2 Science National Curriculum** 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. Children can: a talk about criteria for grouping, sorting and classifying; b group and classify things; c collect data from their own observations and measurements; d present data in a variety of ways to help in answering questions; e use, read and spell scientific vocabulary correctly and with confidence, using their growing word reading and spelling knowledge; f record findings using scientific language, drawings, labelled diagrams, keys, bar charts and tables.	**Upper KS2 Science National Curriculum** Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. Children can: a independently group, classify and describe living things and materials; b use and develop keys and other information records to identify, classify and describe living things and materials; c decide how to record data from a choice of familiar approaches; d record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar graphs and line graphs.

Drawing Conclusions, Noticing Patterns and Presenting Findings	**KS1 Science National Curriculum** Using their observations and ideas to suggest answers to questions. Children can: a notice links between cause and effect with support; b begin to notice patterns and relationships with support; c begin to draw simple conclusions; d identify and discuss differences between their results; e use simple and scientific language; f read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage 1; g talk about their findings to a variety of audiences in a variety of ways.	**Lower KS2 Science National Curriculum** Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Children can: a draw simple conclusions from their results; b make predictions; c suggest improvements to investigations; d raise further questions which could be investigated; e first talk about, and then go on to write about, what they have found out; f report and present their results and conclusions to others in written and oral forms with increasing confidence.	**Upper KS2 Science National Curriculum** Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations. Children can: a notice patterns; b draw conclusions based in their data and observations; c use their scientific knowledge and understanding to explain their findings; d read, spell and pronounce scientific vocabulary correctly; e identify patterns that might be found in the natural environment; f look for different causal relationships in their data; g discuss the degree of trust they can have in a set of results; h independently report and present their conclusions to others in oral and written forms.
Using Scientific Evidence and Secondary Sources of Information		**Lower KS2 Science National Curriculum** Identifying differences, similarities or changes related to simple scientific ideas and processes. Using straightforward scientific evidence to answer questions or to support their findings. **Children can:** a **make links between their own science results and other scientific evidence;** b **use straightforward scientific evidence to answer questions or support their findings;** c **identify similarities, differences, patterns and changes relating to simple scientific ideas and processes;** d **recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations.**	**Upper KS2 Science National Curriculum** Identifying scientific evidence that has been used to support or refute ideas or arguments. Children can: a use primary and secondary sources evidence to justify ideas; b identify evidence that refutes or supports their ideas; c recognise where secondary sources will be most useful to research ideas and begin to separate opinion from fact; d use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas; e talk about how scientific ideas have developed over time.