

## Progression in Science

	EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
<b>Working Scientifically</b>	I can comment and ask questions about aspects of their familiar world such as the place they live or the natural world The World:30-50 months	I can ask simple questions.		I can ask relevant scientific questions.			
	I can closely observe what animals, people and vehicles do The world 8-20 months	I can use simple equipment to make observations & observe over time.		I can use observations and knowledge to answer scientific questions.			
	Find ways to solve problems/find new ways to do things/test their ideas-Creating & Thinking Critically	I can carry out simple tests.		I can set up a simple enquiry to explore a scientific question.  I can set up a test to compare two things (comparative test).  I can set up a fair test and explain why it is fair.		I can plan different types of scientific enquiry.  I can use control variables where necessary.	

<p>Develop ideas of grouping, sequences, cause and effect –          Creating &amp; Thinking Critically          Know about similarities and differences in relation to places, objects, materials and living things          ELG: The World</p>	<p>I can use observations suggest what I have found out.</p>	<p>I can make a prediction with a reason.           I can draw conclusions and suggest improvements.</p>	<p>I can use the outcome of test results to make predictions and set up a further comparative fair test.           I can explain a conclusion from an enquiry.           I can explain causal relationships in an enquiry</p>
<p>I can choose the resources I need for my chosen activity          ELG: Self Confidence and awareness          I can handle equipment and tools effectively          ELG: Moving &amp; Handling</p>	<p>I can use simple measurements gather data and help answer questions.</p>	<p>I can make careful and accurate observations, including the use of standard units.           I can use equipment including thermometers and data loggers to make measurements.</p>	<p>I can measure accurately and precisely using a range of equipment.           I can take repeat readings where appropriate.</p>
		<p>I can use diagrams, keys, bar charts and tables; using scientific language.</p>	<p>I can record data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p>
	<p>I can identify and classify</p>	<p>I can gather, record, classify and present data in different ways to answer scientific questions.           I can use findings in a report in different ways including oral and written explanations, presentations.</p>	<p>I can report findings from enquiries in a range of ways           I can explain a conclusion from an enquiry.           I can explain causal relationships in an enquiry.</p>
		<p>I can identify differences, similarities and</p>	<p>I can relate the outcome from an enquiry to</p>

			changes related to an enquiry.	scientific knowledge in order to state whether evidence supports or refutes an argument or theory.
<b>Vocabulary</b>	Question ,Because, Test, Length, Height, Weight, Find out	observe, describe, test, compare, Measure, temperature Record, results, Predict , Pattern	explain, accurate, conclusion, classify, Standard units, data logger, record, table, keys	Evidence, enquiry, causal relationships, classification keys, scatter graphs, comparative fair tests, line graph reliable, variables, valid



# Plants

<p>I know about similarities and differences in relation to places, objects, materials and living things.</p>	<p>I can name a variety of common wild and garden plants</p> <p>I can identify and name deciduous and evergreen trees</p>	<p><i>I can identify and name plants and animals in a range of habitats (Living things &amp; habitats)</i></p>				
<p>I can talk about the features of their own immediate environment and how environments might vary from one another.</p>	<p>I can name the petals, stem, leaf and root of a plant</p> <p>I can name the roots, trunk, branches &amp; leaves of a tree</p>		<p>I can describe the function of different parts of the flowering plants and trees (roots, stem, trunk, leaves &amp; flowers)</p>			
<p>I can make observations of animals and plants and explain why some things occur, and talk about changes.</p>		<p>I can observe and describe how seeds &amp; bulbs grow into plants.</p>	<p>I can describe the life cycle of plants.</p> <p>I can describe pollination.</p> <p>I can describe seed formation.</p> <p>I can describe seed dispersal.</p>		<p><i>I can describe sexual reproduction in plants</i></p> <p><i>I can describe asexual reproduction in plants (Living things &amp; their habitats).</i></p>	
		<p>I can describe what plants need in order to grow and stay healthy (water, light &amp; suitable temperature)</p>	<p>I can explore and describe the needs of plants for life and growth.</p> <p>I can compare the different needs of different plants for life and growth.</p>			<p><i>I can explain how animals and plants are adapted to suit their environments (Evolution &amp; inheritance)</i></p>

				I can investigate and describe how water is transported within plants.			
<b>Vocabulary</b>	Grow, dies/dead, change, alive, plant, soil, seed, roots, leaf, flower	Blossom, petals, fruit, roots, seed, trunk, branch, stem, bark, stalk, bud	bulbs, water, light, temperature, soil, nutrients, germinate, shade, warmth, cool, healthy	Transported pollen, pollination, seed formation, seed dispersal, Photosynthesis Reproduce, wind dispersal, animal dispersal, water dispersal			



# Animals including humans

<p>I know about similarities and differences in relation to places, objects, materials and living things.</p>	<p>I can name a variety of animals including fish, amphibians, reptiles, birds and mammals.</p> <p>I can sort animals into categories (including fish, amphibians, reptiles, birds and mammals).</p>			<p><i>I can group living things in different ways</i></p> <p><i>I can use classification keys to group and identify and name living things.</i></p> <p><i>I can create classification keys to group, identify and name living things. (Living things &amp; their habitat)</i></p>		
	<p>I can classify and name animals by what they eat (carnivore, herbivore and omnivore).</p>	<p><i>I can identify and name some different sources of food for animals.</i></p> <p><i>I can describe and explain a simple food chain. (Living things and their habitat)</i></p>		<p>I can use food chains to identify producers, predators and prey.</p> <p>I can construct food chains to identify producers, predators and prey.</p>		
	<p>I can name the parts of the body</p> <p>I can link the correct part of the human body to each sense.</p>		<p>I can describe and explain the skeletal system of a human.</p> <p>I can describe and explain the muscular system of a human.</p>	<p>I can identify and describe the different types of teeth in humans.</p> <p>I can describe the functions of different human teeth.</p>		<p>I can identify and name the main parts of the human circulatory system.</p> <p>I can describe the function of the heart, blood vessels and blood.</p>

<p>I can make observations of animals and plants and explain why some things occur, and talk about changes.</p>	<p>I can describe and compare the features and structures of a variety of animals (including fish, amphibians, reptiles, birds, mammals and pets)</p>					
		<p>I can describe and explain the basic stages in a life cycle for animals including humans.</p>			<p>I can describe the changes as humans develop to old age.</p> <p>I can create a timeline to indicate the stages of growth in humans.</p> <p>I can describe the changes experienced in puberty (Non-statutory)</p> <p><i>I can describe the life cycle of different living things, including mammals, amphibian, insect, birds (Living things and their habitats).</i></p>	
		<p>I can describe the basic needs for animals and humans for survival (water, food, air).</p>				

			<p>I can describe why exercise is important for humans.</p> <p>I can describe why a balanced diet is important for humans.</p> <p>I can describe why good hygiene is important for humans.</p>	I can explain the importance of a nutritious, balanced diet			<p>I can discuss the impact of exercise. on human health.</p> <p>I can discuss the impact of drugs and life style on health human health.</p>
				I can explain how nutrients, water and oxygen are transported within animals and humans.	<p>I can identify and name the parts of the human digestive system (mouth, tongue, teeth, oesophagus, stomach, small and large intestine).</p> <p>I can describe the function of the organs in the human digestive system.</p>		I can describe the ways in which nutrients and water are transported in animals including humans.
				I can describe the purpose of the skeleton in animals and humans			
<b>Vocabulary</b>		amphibian, reptile, bird, mammal, carnivore, herbivore, omnivore, Senses Skeleton, sight, touch, taste, hearing, smell.	Offspring, reproduction, survival, air, baby, toddler, child, teenager, adult,, old age, exercise, heartbeat, hygiene, germs, disease,	Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, bones, muscles, move, skull, ribs, spine, muscles, joints	Digestive system, digestion, saliva, oesophagus, stomach, small & large intestine, rectum, anus, teeth, incisor, canine, molar, premolars, producer, predator, prey, food chain	Gestation, puberty, mass, adolescent, foetus, life expectancy, reproduction, embryo	Pulse, rate, pumps, arteries, cells, chambers blood vessels, transported, oxygen, carbon dioxide, cycle, circulatory system, diet, exercise, drugs and lifestyle

# Living things & their habitat

			I can identify things that are living, dead and never alive.				
I can make observations of animals and plants and explain why some things occur, and talk about changes			<p>I can describe how habitats provide the basic needs of the animals and plants that live there</p> <p>I can describe how different animals and plants in a habitat depend on each other.</p>		I can describe how changes to an environment could endanger living things.		<p><i>I can describe how the Earth and living things have changed over time.</i></p> <p><i>I can describe what living things inhabited the Earth millions of years ago (Evolution &amp; inheritance).</i></p>
I can talk about the features of their own immediate environment and how environments might vary from one another.			<p>I can identify and name a range of plants and animals in their habitat.</p> <p>I can identify and name a range of plants and animals in their micro-habitats.</p>				
I know about similarities and differences in relation to places, objects, materials and living things.	<p><i>I can classify and name animals by what they eat (carnivore, herbivore and omnivore) (Animals including humans).</i></p>		<p>I can describe how animals find their food.</p> <p>I can identify and name some different sources of food for animals.</p> <p>I can describe and explain a simple food chain.</p>		<p><i>I can use food chains to identify producers, predators and prey.</i></p> <p><i>I can construct food chains to identify producers, predators and prey (Animals including humans).</i></p>		

*I can name a variety of animals including fish, amphibians, reptiles, birds and mammals.  
I can sort animals into categories (including fish, amphibians, reptiles, birds and mammals) (Animals including humans).*

I can group living things in different ways

I can classify living things into broad groups according to observable characteristics  
  
I can classify living things based on similarities & differences.

I can use classification keys to group and identify and name living things.

I can create classification keys to group, identify and name living things. (Living things & their habitat)

I can describe how living things have been classified.  
  
I can give reasons for classifying and animals in a specific way.

*I can describe and explain the basic stages in a life cycle for animals including humans.*

I can describe the life cycle of mammals.  
  
I can describe the cycle of birds.  
  
I can describe the life cycle of amphibians.  
  
I can describe the life cycle of insects.

						I can describe the differences between different life cycles.	
			<i>I can observe and describe how seeds &amp; bulbs grow into plants (Plants).</i>	<i>I can describe the life cycle of plants. I can describe pollination. I can describe seed formation. I can describe seed dispersal. (Plants)</i>		I can describe sexual reproduction in plants. I can describe asexual reproduction in plants.	
						I can describe the process of reproduction in animals.	
<b>Vocabulary</b>			Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, habitat, micro-habitat .		Classification, classification keys, environment, human impact, positive, negative, migrate, adaptation, ecosystem, nature reserve	Life cycle, reproduce, sexual reproduction, sperm, fertilises, egg, live young, metamorphosis, asexual reproduction, plantlets, cuttings offspring, anther, filament, ovulate, sepal, stamen, stigma	Vertebrates, invertebrates, flowering and nonflowering, abdomen, thorax, micro-organisms, bacteria, microbes, kingdoms, species

# Evolution & inheritance

					<i>I can describe how changes to an environment could endanger living things (Living things &amp; their habitats).</i>		I can describe how the Earth and living things have changed over time. I can describe what living things inhabited the Earth millions of years ago.
I can make observations of animals and plants and explain why some things occur and talk about changes				<i>I can describe how fossils are formed. (Rocks)</i>			I can explain how fossils can be used to find out about the past.
							I can explain how living things produce offspring of the same kind.  I can describe how offspring can vary and are not identical to their parents.
I know about similarities and differences in relation to places, objects, materials and living things.			<i>I can describe how habitats provide the basic needs of the animals and plants that live there</i>  <i>I can describe how</i>				I can explain how animals and plants are adapted to their environments.

			<i>different animals and plants in a habitat depend on each other. (Living things &amp; their habitat).</i>				
							<p>I can link adaptation over time to evolution.</p> <p>I can explain evolution.</p>
<b>Vocabulary</b>							<p>Offspring, species, natural selection, inheritance, variation, evolution, characteristics, suited, adapted, environment,</p>

**Materials**

		<p>I can tell the difference between an object and the material it is made from.</p> <p>I can explain the materials that an object is made from.</p>	<p>I can suggest why a material might or might not be used for a specific purpose.</p>			<p>I can give reasons, based on evidence from comparative and fair tests, why materials should be used for a specific purpose.</p>	
<p>I can talk about the features of their own immediate environment and how environments might vary from one another.</p>	<p>I can identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock.</p>	<p>I can identify and name a wide range of materials and their properties.</p>					
	<p>I can describe the properties of everyday materials.</p>						
<p>I know about similarities and differences in relation to places, objects, materials and living things.</p>	<p>I can compare materials based on their properties.</p> <p>I can group materials based on their properties.</p>	<p>I can compare the suitability of different materials for a specific purpose.</p>	<p><i>I can compare and group rocks based on their appearance and physical properties (Rocks).</i></p>	<p>I can compare solids, liquids and gases.</p> <p>I can group materials based on their state of matter</p> <p><i>I can identify and name some conductors and insulators.</i></p> <p><i>I can describe and compare the difference between a conductor and</i></p>	<p>I can compare and group materials based on their properties, including hardness, solubility, transparency, conductivity (electrical &amp; thermal) and response to magnets.</p>		

					<i>insulators. (Electricity)</i>		
I can explain why some things occur, and talk about changes.		I can explore how shapes can be changed by squashing, bending, twisting and stretching.			<p>I can explore how materials change state.</p> <p>I can measure, observe and research the temperatures at which materials change.</p> <p>I can describe evaporation and condensation.</p>	<p>I can describe how a material dissolves to form a solution.</p> <p>I can explain the dissolving process.</p> <p>I can describe and show how to recover a substance from a solution.</p> <p>I can demonstrate that dissolving, mixing, and changes of state are reversible.</p> <p>I can explain how some changes result in the formation of a new material and that this is usually irreversible.</p> <p>I can discuss reversible and irreversible changes.</p>	
					<p>I can describe the water cycle.</p> <p>I can explain the part played by evaporation and condensation in the water cycle.</p>	<p>I can explain how some materials can be separated.</p> <p>I can use knowledge of solids, liquids and gases to separate</p>	

					I can describe the effect of temperature on the rate of evaporation.	mixtures through filtering, sieving and evaporation.	
Vocabulary		Object, material, wood, plastic, glass, metal, rock, brick, hard, soft, stretchy, stiff, bendy, waterproof, rough, smooth, shiny, dull,	opaque, transparent, translucent, see through, reflective, flexible, absorbent, rigid, push, pull, twist, squash, bend, stretch.		Matter, solid, liquid, gas, melting point, freezing point, boiling point, evaporation, temperature, water cycle, precipitation, condensation	Thermal, electrical, conductors, insulators, reversible, dissolving, mixture, filtering, solution, solubility, irreversible, sieving, change of state,	

# Rocks

	<p>I know about similarities and differences in relation to places, objects, materials and living things.</p>	<p><i>I can compare materials based on their properties.</i></p> <p><i>I can group materials based on their properties. (Materials)</i></p>	<p><i>I can compare the suitability of different materials for a specific purpose (Materials).</i></p>	<p>I can compare and group rocks based on their appearance and physical properties.</p>	<p><i>I can compare solids, liquids and gases.</i></p> <p><i>I can group materials based on their state of matter. (Materials)</i></p>	<p><i>I can compare and group materials based on their properties, including hardness, solubility, transparency, conductivity (electrical &amp; thermal) and response to magnets. (Materials)</i></p>	
	<p>I can make observations of animals and plants and explain why some things occur and talk about changes.</p>			<p>I can describe how fossils are formed</p>			<p><i>I can explain how fossils can be used to find out about the past. (Evolution &amp; inheritance)</i></p>
				<p>I can describe how soil is made (from rocks and organic matter).</p>			
				<p>I can describe and explain the difference between sedimentary and igneous rock.</p>			
<h2>Vocabulary</h2>				<p>Magma, metamorphic, sedimentary, igneous, crust, fossil, decay, quarry, marble, chalk, granite, sandstone, peat, slate.</p>			



**Seasonal change**

<p>I can make observations of animals and plants and explain why some things occur, and talk about changes. I know about similarities and differences in relation to places, objects, materials and living things.</p>	<p>I can observe and comment on the changes in the seasons.</p>					
<p>I can talk about the features of their own immediate environment and how environments might vary from one another</p>	<p>I can name the seasons.  I can describe the weather in each season.</p>		<p><i>I can explain and demonstrate how a shadow is formed.</i></p> <p><i>I can explore and explain patterns in the sizes of shadows and how they change.</i> <i>(Light)</i></p>		<p><i>I can describe the movement of the Earth and the other planets relative to the Sun. (Earth &amp; Space)</i></p>	
	<p>I can describe how day length changes with the seasons.</p>				<p><i>I can explain and demonstrate how night and day are created (using the idea of the Earth's rotations).</i></p> <p><i>I can explain and demonstrate how the sun moves across the sky (using the idea of the Earth's rotation).</i> <i>(Earth &amp; Space)</i></p>	

**Vocabulary**

Weather (sunny, rainy, windy, snowy etc.), seasons (Winter, Summer, Spring, Autumn), sun, sunrise, sunset, day length, monsoon, thunder storm

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# Light

				<p>I can explain that light is needed in order to see.</p> <p>I can describe what the dark is (the absence of light).</p>			<p>I can explain and demonstrate how we see objects.</p>
	<p>I can make observations of animals and plants and explain why some things occur, and talk about changes.</p>			<p>I can observe and explain that light is reflected from a surface.</p>			<p>I can explain how light travels.</p>
							<p>I can use existing ideas to explain why objects are seen.</p>
		<p><i>I can link the correct part of the human body to each sense. (Animals including humans)</i></p>		<p>I can explain how sunlight can be dangerous.</p> <p>I can describe how to protect my eyes.</p>			
	<p>I can talk about the features of their own immediate environment and how environments might vary from one another.</p>	<p><i>I can name the seasons.</i></p> <p><i>I can describe the weather in each season (seasonal change).</i></p>		<p>I can explain and demonstrate how a shadow is formed.</p>			<p>I can explain why shadows have the same shape as the object that casts them.</p>
				<p>I can explore and explain patterns in the sizes of shadows and how they change.</p>			
							<p>I can explain how</p>

							simple optical instruments work e.g. periscope, telescope, binoculars, mirror, magnifying glass ect.
Vocabulary				Light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, size, shape, pattern			Refraction, reflection, prism, cast, source straight lines, light rays

# Forces

<p>I can talk about the features of their own immediate environment and how environments might vary from one another. I know about similarities and differences in relation to places, objects, materials and living things.</p>			<p>I can explore, describe and compare how objects move on different surfaces.</p>		<p>I can identify and explain the effects of air resistance.</p> <p>I can identify and explain the effects of water resistance.</p> <p>I can identify and explain the effects of friction</p>	
<p>I can explain why some things occur, and talk about changes.</p>		<p><i>I can explore how shapes can be changed by squashing, bending, twisting and stretching (Materials).</i></p>	<p>I can explain how some forces need contact.</p> <p>I can explain how some forces work at a distance.</p>		<p>I can explain what gravity is and its impact on our lives.</p>	
					<p>I can explain how levers, pulleys and gears allow a smaller force to have a greater effect.</p>	
			<p>I can explore and describe how magnets attract or repel each other.</p> <p>I can explore and describe how magnets attract some materials but not others.</p>			
			<p>I can compare and group materials based</p>			

				on their magnetic properties. I can identify magnetic materials.			
				I can describe magnets (having two poles).			
				I can predict whether magnets will attract or repel and give a reason.			
<b>Vocabulary</b>				Force, attract, repel, magnetic material, iron, steel, poles, magnetic force, friction contact force, non-contact force, north pole, south pole		Gravity, air resistance, up thrust, gravitational pull, water resistance, friction, mechanisms, levers, pulleys, gears, spring, acceleration	

# Earth and Space

<p>I can talk about the features of their own immediate environment and how environments might vary from one another. I can explain why some things occur, and talk about changes.</p>	<p><i>I can name the seasons. I can describe the weather in each season. (Seasonal change)</i></p>		<p><i>I can explain and demonstrate how a shadow is formed. I can explore and explain patterns in the sizes of shadows and how they change. (Light)</i></p>		<p>I can describe the movement of the Earth and the other planets relative to the Sun.</p>	
					<p>I can describe the movement of the Moon relative to the Earth.</p>	
					<p>I can describe the Sun, Earth and Moon (using the term spherical bodies).</p>	
	<p><i>I can describe how day length changes with the seasons. (Seasonal change)</i></p>				<p>I can explain and demonstrate how night and day are created (using the idea of the Earth's rotations).</p> <p>I can explain and demonstrate how the sun moves across the sky (using the idea of the Earth's rotation).</p>	

**Vocabulary**

Earth, Sun, Moon,  
Mercury,  
Jupiter, Saturn,  
Venus, Mars, Uranus,  
Neptune, spherical,  
solar system, rotates,  
star, axis, orbit,  
planets



							diagrams using the correct symbols.
<b>Vocabulary</b>					Electricity, electrical appliance/device, mains, electrical circuit, complete circuit, component, positive, negative, bulb, buzzer, battery, cell, wire, motor, switch, brightness, current, conductor, insulator		Circuit, complete circuit, incomplete circuit, circuit diagram, circuit symbol, volt, voltage, Amp, Watts, resistance, current, series - NB Children do not need to understand what voltage is but will use volts and voltage to describe different batteries. The words cells and batteries are now used interchangeably

Sound

					I can describe how sound is made.		
I can talk about the features of their own immediate environment and how environments might vary from one another. I can make observations of animals and plants and explain why some things occur, and talk about changes	<i>I can link the correct part of the human body to each sense. (Animals including humans)</i>				I can explain how sound travels from a source to our ears.  I can explain the role of vibrations in hearing.		
					I can explore patterns between the pitch and the object producing the sound.		
I know about similarities and differences in relation to places, objects, materials and living things.					I can explore patterns between the volume of a sound and the strength of the vibrations that produced it.		
					I can describe what happened=s to a sound as it travels away from its source.		

Vocabulary					Sound, source, vibrate, wave vibration, travel, pitch (high, low), volume, faint, loud, insulation, eardrum, distance		