



Colliers Green Science progression map

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animals including humans	<p>Identify and name a variety of common animals that are birds, fish, amphibians, reptiles and mammals</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>Describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles and mammals, and including pets).</p> <p>Identify, name draw and label the basic parts of the human body and say which parts 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 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>	<p>Describe the changes as humans develop from birth to old age.</p>	<p>Identify and name the main parts of the human circulatory system, and explain the functions of the heart, blood vessels and blood.</p> <p>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p> <p>Describe the ways in which nutrients and water are transported within animals, including humans.</p>
Living things and their habitats		Explore and compare the differences		Recognise that living things can be	Describe the differences in the life	Describe how living things are classified

		<p>between things that are living, dead, and things that have never been alive.</p> <p>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.</p> <p>Identify and name a variety of plants and animals in their habitats, including micro-habitats.</p> <p>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.</p>		<p>grouped in a variety of ways.</p> <p>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>Recognise that environments can change and that this can sometimes pose dangers to living things</p>	<p>cycles of a mammal, an amphibian, an insect and a bird.</p> <p>Describe the life process of reproduction in some plants and animals.</p>	<p>into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals.</p> <p>Give reasons for classifying plants and animals based on specific characteristics.</p>
Properties and changing materials	Distinguish between an object and the material from which it is made.	Identify and compare the suitability of a variety of everyday materials, including wood, metal,	Compare and group together different kinds of rocks on the basis of their appearance and	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, including their hardness, solubility,	

	<p>Identify and name a variety of everyday materials, including wood, plastic, glass, water and rock.</p> <p>Describe the simple physical properties of a variety of everyday materials.</p> <p>Compare and group together a variety of everyday materials on the basis of their physical properties.</p>	<p>plastic, glass, brick, rock, paper and cardboard for particular uses.</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>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>	<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>	<p>transparency, conductivity (electrical and thermal), and response to magnets.</p> <p>Understand that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. Demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>Explain that some changes result in the</p>	
--	---	--	--	---	---	--

					formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.	
Plants	<p>Identify and name a variety of common plants, including garden plants, wild plants and trees, and those classified as deciduous and evergreen.</p> <p>Identify and describe the basic structure of a variety of common plants including roots, stem/trunk, leaves and flowers.</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 plants; roots, stem, 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 ways in which water is transported within plants.</p> <p>Explore the role of flowers in the life cycle of flowering plants, including</p>			

			pollination, seed formation and seed dispersal			
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 sizes of shadows change.</p>			<p>Recognise that light appears to travel in straight lines.</p> <p>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.</p> <p>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>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p>
Electricity				<p>Identify common appliances that run on electricity.</p> <p>Construct a simple series electrical circuit, identifying</p>		<p>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</p>

				<p>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>		<p>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.</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p>
Forces			<p>Compare how things move on different surfaces.</p> <p>Notice that some forces need contact between two objects, but magnetic forces can act at a distance.</p>		<p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <p>Identify the effects of air resistance, water resistance and</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 magnet, and identify some magnetic materials.</p> <p>Describe magnets as having two poles.</p> <p>Predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>		<p>friction, that act between moving surfaces.</p> <p>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>	
Rocks	<p>Distinguish between an object and the material from which it is made.</p> <p>Identify and name a variety of everyday materials, including</p>	<p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and</p>	<p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</p>	<p>Compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>Observe that some materials change state when they are</p>	<p>Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and</p>	

	<p>wood, plastic, glass, water and rock.</p> <p>Describe the simple physical properties of a variety of everyday materials.</p> <p>Compare and group together a variety of everyday materials on the basis of their physical properties.</p>	<p>cardboard for particular uses.</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</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>	<p>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>	<p>thermal), and response to magnets.</p> <p>Understand that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>Explain that some changes result in the formation of new materials, and that</p>	
--	--	---	---	--	--	--

					<p>this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.</p>	
Earth and space					<p>Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</p> <p>Describe the movement of the Moon relative to the Earth.</p> <p>Describe the Sun, Earth and Moon as approximately spherical bodies</p> <p>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.</p>	
Evolution and inheritance						<p>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the</p>

						<p>Earth millions of years ago.</p> <p>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>
Seasonal changes	<p>Observe changes across the four seasons.</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p>					

Working scientifically

	Key Stage 1	Lower Key Stage 2	Upper Key Stage 2
Questioning and enquiring planning	<p>Ask questions about the world around us.</p> <p>Recognise that they can be answered in different ways (different types of enquiry including - observing changes over time, noticing patterns, grouping and classifying,</p>	<p>Ask relevant questions and using different types of scientific enquiries to answer them.</p> <p>Set up simple practical enquiries, comparative and fair tests.</p>	<p>Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Select the most appropriate ways to answer science questions using different types of scientific enquiry (including observing changes</p>

	carrying out simple comparative tests, finding things out from secondary sources).	Make some decisions about which types of enquiry will be the best way of answering questions (including observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative and fair tests, finding things out using secondary sources.)	over different periods of time, noticing patterns, grouping and classifying, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information.)
Observing and measuring Pattern seeking	<p>Observe closely, using simple equipment.</p> <p>Use observations and ideas to suggest answers to questions.</p> <p>Observe changes over time and, with guidance, begin to notice patterns and relationships.</p> <p>To know how to use simple equipment safely. Use simple measurements and equipment with increasing independence (eg hand lenses and egg timers)</p> <p>Begin to progress from non-standard units, reading mm, cm, m, ml, l, °C</p>	<p>Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</p> <p>Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used.</p> <p>Learn to use new equipment appropriately (eg data loggers).</p> <p>Can choose from a selection of equipment.</p> <p>Can observe and measure accurately using standard units including time in minutes and seconds.</p>	<p>Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate.</p> <p>Identify patterns that might be found in the natural environment.</p> <p>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.</p> <p>Choose the most appropriate equipment and explain how to use it accurately.</p> <p>Can interpret data and find patterns.</p> <p>Accurate and precise measurements – N, g, kg, mm, cm, mins, seconds, cm²V, km/h, m per sec, m/ sec Graphs – pie, line, bar (Year 6)</p>
Investigating	<p>Perform simple tests.</p> <p>Discuss ideas about how to find things out.</p> <p>Explain what happened in investigations.</p>	<p>Set up simple practical enquiries, comparative and fair tests.</p> <p>Recognise when a simple fair test is necessary and help to decide how to set it up.</p> <p>Can think of more than one variable factor.</p>	<p>Use test results to make predictions to set up further comparative and fair tests.</p> <p>Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why.</p> <p>Suggest improvements to methods and give reasons.</p>

			Decide when it is appropriate to do a fair test.
Recording and reporting findings	<p>Gather and record data to help in answering questions.</p> <p>Record simple data.</p> <p>Record and communicate findings in a range of ways.</p> <p>Show results in a table that has been provided.</p>	<p>Gather, record, classify and present data in a variety of ways to help in answering questions.</p> <p>Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.</p> <p>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Use notes, simple tables and standard units and help to decide how to record and analyse data.</p> <p>Can record results in tables and bar charts.</p>	<p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs.</p> <p>Report and present findings from enquiries.</p> <p>Decide how to record data from a choice of familiar approaches.</p> <p>Can choose how best to present data.</p>
Identifying, grouping and classifying	<p>Identify and classify.</p> <p>Observe and identify, compare and describe.</p> <p>Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them.</p>	<p>Identify differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Talk about criteria for grouping, sorting and classifying and use simple keys.</p> <p>Compare and group according to behaviour or properties, based on testing.</p>	<p>Use and develop keys and other information records to identify, classify and describe living things and materials.</p>
Conclusions	<p>Talk about what they have found out and how they found it out.</p> <p>Explain what happened in investigations.</p> <p>To say whether they are surprised at the results or not.</p> <p>To say what they would change about the investigation.</p>	<p>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>Use straightforward scientific evidence to answer questions or to support their findings.</p> <p>With help, look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions.</p>	<p>Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.</p> <p>Identify scientific evidence that has been used to support or refute ideas or arguments.</p> <p>Draw conclusions based on their data and observations, use evidence to justify their</p>

		<p>With support, identify new questions arising from the data, make new predictions and find ways of improving what they have already done.</p> <p>Can say what they found out, linking cause and effect.</p> <p>To say what they would change about the investigation.</p>	<p>ideas, use scientific knowledge and understanding to explain their findings.</p> <p>Use test results to make predictions to set up further comparatives and fair tests.</p> <p>Look for different causal relationships in their data and identify evidence that refutes or supports their ideas.</p> <p>Use their results to identify when further tests and observations are needed.</p> <p>Separate opinion from fact.</p> <p>Can draw conclusions and identify scientific evidence.</p> <p>Can use simple models.</p> <p>Know which evidence proves a scientific point.</p> <p>Use test results to make predictions to set up further comparative and fair tests.</p>
Vocabulary	<p>Use simple scientific language and some science words.</p> <p>Use comparative language – bigger, faster etc</p>	<p>Use some scientific language to talk and, later, write about what they have found out.</p> <p>Use relevant scientific language.</p> <p>Use comparative and superlative language.</p>	<p>Read, spell and pronounce scientific vocabulary correctly.</p> <p>Use relevant scientific language and illustrations to discuss, communicate and justify scientific ideas.</p> <p>Can confidently use a range of scientific vocabulary.</p> <p>Can use scientific ideas when describing simple processes.</p>