Skills Progression

Subject area: Science

Curriculum team: Dawn Fuller, Fiona Lewis, Becky Lester

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Scientific investigation	To observe closely, using simple equipment performing simple tests. To use their observations and ideas to suggest answers to questions To ask simple questions and recognising that they can be answered in different ways To perform simple tests To gather and record data to help in answering questions To identify and classify	To observe closely, using simple equipment performing simple tests. To use their observations and ideas to suggest answers to questions To ask simple questions and recognising that they can be answered in different ways To perform simple tests To gather and record data to help in answering questions To identify and classify	To use straightforward scientific evidence to answer questions or to support their findings To ask relevant questions and use different types of scientific enquiries to answer them To set up simple practical enquiries, comparative and fair tests To make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables To identify differences, similarities or changes related to simple scientific ideas and processes To gather, record, classify and present data in a variety of ways to help in answering questions To report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions	To use straightforward scientific evidence to answer questions or to support their findings To ask relevant questions and use different types of scientific enquiries to answer them To set up simple practical enquiries, comparative and fair tests To make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables To identify differences, similarities or changes related to simple scientific ideas and processes To gather, record, classify and present data in a variety of ways to help in answering questions To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions	To use straightforward scientific evidence to answer questions or to support their findings To ask relevant questions and use different types of scientific enquiries to answer them To set up simple practical enquiries, comparative and fair tests To make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables To identify differences/similarities or changes related to simple scientific ideas and processes To gather, record, classify and present data in a variety of ways to help in answering questions To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions To report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions	To use straightforward scientific evidence to answer questions or to support their findings To ask relevant questions and use different types of scientific enquiries to answer them To set up simple practical enquiries, comparative and fair tests To make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables To identify differences, similarities or changes related to simple scientific ideas and processes To gather, record, classify and present data in a variety of ways to help in answering questions To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions

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Biology 1:	**Animals including humans** To identify and name a variety of common animals including, fish, amphibians, reptiles, birds and mammals To describe and compare a variety of common animals To identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense To identify and name a variety of common animals that are carnivores, herbivores and omnivores	**Living things and their habitats** To explore and compare the differences between things that are living, dead, and things that have never been alive To 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. To 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 **Animals, including humans** To notice that animals, including humans, have offspring which grow into adults To find out about and describe the basic needs of animals, including humans, for survival (water, food and air) To describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	**Food** To 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 To identify that humans and some other animals have skeletons and muscles for support, protection and movement.	**Moving and growing** To describe the simple functions of the basic parts of the digestive system in humans To identify the different types of teeth in humans and their simple functions		**Interdependence & Adaptation** To identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution To give reasons for classifying plants and animals based on specific characteristics. To recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago To recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents
Biology 2:	**Plants** To identify and describe the basic structure of a variety of common flowering plants, including trees To identify and name a variety of common wild and garden plants, including deciduous and evergreen trees	**Plants & Animals in the local environment** To observe and describe how seeds and bulbs grow into mature plants To find out and describe how plants need water, light and a suitable temperature to grow and stay healthy To identify and name a variety of plants and animals in their habitats, including microhabitats	**Helping Plants grow well** To explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal To explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow)	**Habitats** To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment To recognise that living things can be grouped in a variety of ways To construct and interpret a variety of food chains,	**Life cycles** To describe the life process of reproduction in some plants and animals. To describe the changes as humans develop to old age. To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird	**Micro-organisms** To describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals

			and how they vary from plant to plant To identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers To investigate the way in which water is transported within plants	identifying producers, predators and prey To recognise that environments can change and that this can sometimes pose dangers to living things.		
Biology 3:						**Keeping Healthy** To identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood To recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function To describe the ways in which nutrients and water are transported within animals, including humans.

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Chemistry 1:	**Everyday materials** To describe the simple physical properties of a variety of everyday materials To distinguish between an object and the material from which it is made To compare and group together a variety of everyday materials on the basis of their simple physical properties To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock	**Grouping and changing materials** To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching To identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for different uses .			**Properties of Materials** To compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets To give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic	
Chemistry 2:			**Rocks and soils** To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties To describe in simple terms how fossils are formed when things that have lived are trapped within rock To recognise that soils are made from rocks and organic matter	**Solids, liquids & how they can be separated** To compare and group materials together, according to whether they are solids, liquids or gases To 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) To identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	**Changing state** To know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution To use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating To demonstrate that dissolving, mixing and changes of state are reversible changes To 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 and the action of acid on bicarbonate of soda	

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Physics 1:				**Circuits and conductors** To construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers To 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 To recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit To identify common appliances that run on electricity	**Earth, Sun & Moon** To describe the Sun, Earth and Moon as approximately spherical bodies To use the idea of the Earth's rotation to explain the apparent movement of the sun across the sky To use the idea of the Earth's rotation to explain day and night To describe the movement of the Moon relative to the Earth To describe the movement of the Earth, and other planets, relative to the Sun in the solar system	**Changing Circuits** To associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit" "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 To use recognised symbols when representing a simple circuit in a diagram
Physics 2:			**Light and Shadows** To recognise that shadows are formed when the light from a light source is blocked by a solid object To find patterns in the way that the size of shadows change To recognise that they need light in order to see things and that dark is the absence of light To notice that light is reflected from surfaces To recognise that light from the sun can be dangerous and that there are ways to protect their eyes	**Sound and hearing** To identify how sounds are made, associating some of them with something vibrating To recognise that vibrations from sounds travel through a medium to the ear To find patterns between the pitch of a sound and features of the object that produced it To find patterns between the volume of a sound and the strength of the vibrations that produced it. To recognise that sounds get fainter as the distance from the sound source increases	**Forces** To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object To identify the effects of air resistance, water resistance and friction, that act between moving surfaces To recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect	**How we see things** To recognise that light appears to travel in straight lines To 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 To use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them To 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 To 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