

Science Progression

KS1 and 2

Biology	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Plants	Talk about what they have observed in plants	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees					
	Talk about how plants change	Identify and describe the basic structure of a variety of common flowering plants, including trees. (describe roots, stem/trunk, leaves, flowers)	Observe and describe how seeds and bulbs grow into mature plants	Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers			
			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, and room to grow) and how they vary from plant to plant			
				Investigate the way in which water is transported within plants			
				Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.			
Animals including humans	Talk about what they have observed in animals	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 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 (water, food and air)	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	Describe the simple functions of the basic parts of the digestive system in humans Construct and interpret a variety of food chains, identifying producers, predators and prey.		Describe the ways in which nutrients and water are transported within animals, including humans.
	Talk about similarities and differences in living things	Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)		Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	Identify the different types of teeth in humans and their simple functions	Describe the changes as humans develop to old age	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
		Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.				Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function
Living things and their habitats	Shows care and concern for living things and the environment Develop an understanding of growth, decay and change		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 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 Give reasons for classifying plants and animals based on specific characteristics
	Talk about different environments		Identify that most living things live in habitats to which they are suited and describe how different habitats		Recognise that environments can change and that this can sometimes pose dangers to living things.	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird	

			provide for the basic needs of different kinds of animals and plants, and how they depend on each other				
			Identify and name a variety of plants and animals in their habitats, including micro-habitats		Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment	Describe the life process of reproduction in some plants and animals.	
			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.				
Evolution and inheritance							Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago
							Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents
							Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Chemistry	FS2	Year 1	Year 2	Year 3	Year 4 (States of matter)	Year 5	Year 6
Everyday materials	Talk about similarities and differences in relation to materials	Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock					
		Distinguish between an object and the material from which it is made					
		Describe the simple physical properties of a variety of everyday materials	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses			Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic	
		Compare and group together a variety of everyday materials on the basis of their simple physical properties.			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, transparency, conductivity (electrical and thermal), and response to magnets Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.	

			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 or research the temperature at which this happens in degrees Celsius (°C)	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 and the action of acid on bicarbonate of soda.	
					Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature	Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution	
Rocks				Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties			
				Describe in simple terms how fossils are formed when things that have lived are trapped within rock			
				Recognise that soils are made from rocks and organic matter.			

Physics	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
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>					
Light				Recognise that they need light in order to see things and that dark is the absence of light			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
				Notice that light is reflected from surfaces			<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>Recognise that shadows are formed when the light from a light source is blocked by a solid object</p> <p>Find patterns in the way that the size of shadows change.</p>			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			

Forces and magnets				<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>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>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 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>	
Sound				<p>Identify how sounds are made, associating some of them with something vibrating</p> <p>Recognise that vibrations from sounds travel through a medium to the ear</p> <p>Find patterns between the pitch of a sound and features of the object that produced it</p>			

					<p>Find patterns between the volume of a sound and the strength of the vibrations that produced it</p> <p>Recognise that sounds get fainter as the distance from the sound source increases.</p>		
Electricity					Identify common appliances that run on electricity		
					Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.		Use recognised symbols when representing a simple circuit in a diagram.
					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		Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
					Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series 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

					Recognise some common conductors and insulators, and associate metals with being good conductors		
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 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>	