

Curriculum Progression - Science

Focus	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Science						
National Curriculum	<p>Pupils should be taught to: Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p>Pupils should be taught to: Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</p>	<p>Pupils should be taught to: Explore and compare the differences 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</p>	<p>Pupils should be taught to: Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers 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 way in which water is transported within plants explore the part that flowers play in the life cycle of flowering plants, including</p>	<p>Pupils should be taught to: Recognise that living things can be 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>Pupils should be taught to: Describe the simple functions of</p>	<p>Pupils should be taught to: Describe the differences in the life 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>Pupils should be taught to: Describe the changes as humans develop to old age.</p> <p>Pupils should be taught to: Compare and group together</p>	<p>Pupils should be taught to: Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals.</p> <p>Give reasons for classifying plants and animals based on specific characteristics.</p> <p>Pupils should be taught to:</p>

	<p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).</p> <p>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p> <p>Pupils should be taught to: Distinguish between an object and the material</p>	<p>a variety of plants and animals in their habitats, including microhabitats 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>Pupils should be taught to: Observe and describe how seeds and bulbs grow into mature plants find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p> <p>Pupils should be</p>	<p>pollination, seed formation and seed dispersal.</p> <p>Pupils should be taught 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.</p> <p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p> <p>Pupils should be taught to: Compare and group together different kinds of rocks on the basis of their appearance and simple physical</p>	<p>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>Pupils should be taught to: 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 heated or cooled, and measure or</p>	<p>everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.</p> <p>Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating give reasons, based on evidence</p>	<p>Identify and name the main parts of the human circulatory system, and describe 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> <p>Pupils should be taught to: Recognise that living things have changed over time and that fossils provide information about living things</p>
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	<p>from which it is made.</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. describe the simple physical properties of a variety of everyday materials compare and group together a variety of everyday materials on the basis of their simple physical properties.</p> <p>Pupils should be taught to: Observe changes across the four seasons. observe and describe weather</p>	<p>taught to: Notice that animals, including humans, have offspring which grow into adults 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>Pupils should be taught to: Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock,</p>	<p>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>Pupils should be taught to: Recognise that they need light in order to see things and that dark is the absence of light 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</p>	<p>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>Pupils should be taught to:</p> <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</p>	<p>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 this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.</p> <p>Pupils should be taught to: Describe the</p>	<p>that inhabited the 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> <p>Pupils should be taught to: Recognise that light appears to travel in straight lines use the idea that light travels in straight lines to explain that</p>
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	<p>associated with the seasons and how day length varies.</p>	<p>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>formed when the light from a light source is blocked by an opaque object.</p> <p>Find patterns in the way that the size of shadows change.</p> <p>Pupils should be taught to: Compare how things move on different surfaces 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</p>	<p>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> <p>Pupils should be taught to: Identify common appliances that run on electricity.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p>	<p>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 use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p> <p>Pupils should be taught to: Explain that unsupported objects fall towards the Earth because of the force of gravity acting</p>	<p>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> <p>Pupils should be taught to: Associate the brightness of a lamp or the volume of a buzzer with the number and</p>
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			<p>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>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>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>	<p>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.</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p>
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Coverage	<p>Animals, including humans Plants</p> <p>Everyday Materials</p> <p>Seasonal Change</p>	<p>Animals, including humans Plants Living things and their habitats</p> <p>Uses of Everyday Materials</p>	<p>Animals including humans Plants</p> <p>Light</p> <p>Forces and Magnets</p> <p>Rocks</p>	<p>Animals, including humans</p> <p>Living things and their habitats</p> <p>Sound</p> <p>Electricity</p> <p>States of matter</p>	<p>Animals, including humans</p> <p>Living things and their habitats</p> <p>Properties and changes of materials Forces</p> <p>Earth and Space</p>	<p>Animals, including humans</p> <p>Living things and their habitats Light</p> <p>Electricity</p> <p>Evolution and inheritance</p>
Progression	<p><u>Animals, including humans Y1</u> They have different body parts...and these have special functions to help them survive (including senses) Animals are grouped into fish, amphibians,</p>	<p><u>Animals, including humans Y2</u> Animals need water, food and air. To stay healthy, animals need exercise, a balanced diet and hygiene. Animals including humans reproduce offspring which</p>	<p><u>Animals, including humans Y3</u> Many animals, including humans, have skeletons and muscles for support, protection and movement. Animals cannot make food on their own.</p>	<p><u>Animals, including humans Y4</u> Animals and humans have teeth to help them eat. Food is broken down further in the stomach and intestine and absorbed into the blood stream with</p>	<p><u>Animals, including humans Y5</u> Human development has different stages between birth and death.</p>	<p><u>Animals, including humans Y6</u> Some substances and lifestyle choices can have a negative impact on health. Oxygen is taken into the blood in the lungs; the blood is pumped by the heart to take</p>

	<p>reptiles, birds and mammals.</p> <p><u>Plants Y1</u> Flowering plants have different parts - roots, stems, leaves, flowers, fruit, seeds. Plants are grouped into common wild and garden plants, deciduous and evergreen trees.</p>	<p>grow into adults.</p> <p><u>Plants Y2</u> Plants need water, light and warmth. Seeds and bulbs grow into plants.</p>	<p><u>Plants Y3</u> To stay healthy, plants need light, water, nutrients and room to grow. Functions of flowering plants. Roots and stems - nutrition, transport of water and support. Leaves - nutrition. Flowers - reproduction. Plants need seeds to produce more plants (sexual reproduction)</p>	<p>water. Nutrients made by plants move to primary consumers and then secondary consumers through food chains.</p>		<p>oxygen and nutrients to the muscles.</p>
		<p><u>Living things and their habitats Y2</u></p>		<p><u>Living things and their habitats Y4</u></p>	<p><u>Living things and their habitats Y5</u></p>	<p><u>Living things and their habitats Y6</u></p>

	<p>Animals including humans Y1 (Link to Y3 Light) We see with our eyes.</p>	<p>Some things are living, some are dead and some have never been alive at all. Animals and plants can be identified and grouped. This is linked to habitat. Different plants and animals live in different places to which they are suited - by giving them food and shelter. Animals get their food from plants and other animals and in turn are consumed by other animals.</p>	<p>Light Y3 We need light to see things. Darkness is the absence of light. There are a variety of sources of light, including the sun. Light travels from a light</p>	<p>Plants and animals can be grouped using a wider range of characteristics. Keys are used for the identification of animals and plants.</p>	<p>Plants and animals need to reproduce. Plants can reproduce asexually. Life cycles differ for different species. Human development has different stages between birth and death.</p>	<p>Light Y6 Some materials reflect light better than others. Light travels in straight lines. We see light from a source reflected off an object into our eyes. Shadows</p> <p>A wider range of living things including microorganisms can be identified. Environmental change and human impact affects different habitats differently.</p>
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	<p><u>Animals including humans Y1 (Link to Y4 Sound)</u> We hear with our ears. Sounds can be different.</p>		<p>source in a straight line. When light hits a material, some of it is reflected off the material. Some materials let light pass through them. Some materials block the light and a shadow is formed. Sunlight can be dangerous. The size of shadows change according to the size and shape of objects and the distance from the light source.</p>	<p><u>Sound Y4</u> Sounds are made when something vibrates. Sound travels through a medium (solid, liquid or gas) Sound travels in all directions from</p>		<p>and reflections are different. Shadows have the same shape as the object that casts them.</p>
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	<p><u>Everyday Materials Y1</u> There are different materials and they are used to make different objects. Different materials, including rocks (Y3) have different properties. Materials can be sorted into groups</p>	<p><u>Uses of Everyday Materials Y2</u> Different materials are suitable for different uses (properties that can be observed)</p>		<p>a source. Sounds get fainter the further they are from the source. The nature of sounds depends on how the vibrations are produced. The volume and pitch of a sound can be changed. Some materials reflect sound, some absorb sound and act as sound insulators.</p>	<p><u>Properties and changes of materials Y5</u> Different properties make materials suitable for different uses (properties that can be measured). Materials can be sorted into groups according to</p>	
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	<p>according to their observable properties. The shape of some solid materials can be changed by a constant force acting on them.</p>				<p>properties including hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets. Some materials will dissolve in a liquid. Dissolving, mixing and changes of state are reversible changes. Changes including baking, burning and the reaction of certain chemicals result in new materials. Changes that result in new materials are not usually reversible. Mixtures can be separated by filtering, sieving and evaporating.</p>	
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			<p><u>Forces and Magnets Y3</u> Forces arise between two objects. Pushing and/or pulling can make things start moving, stop, go faster or slower. Some forces need contact between two objects (contact forces) When one object moves over another one there will be a force between them that opposes motion. This is called friction. Some forces act between objects although they are not in contact (non-contact forces) Magnets can act at a distance. Magnets exert attractive and repulsive forces on</p>		<p><u>Forces Y5</u> Drag forces resist movement. Some mechanisms allow a smaller force to have a greater effect. The force of gravity caused by the Earth pulls objects towards its centre.</p>	
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			<p>each other. Some materials are magnetic, some are not.</p>	<p><u>Electricity Y4</u> Electrical appliances need a source of electricity to work. A complete circuit is needed for an electric current to flow. A circuit is made up of different components. A switch opens and closes a circuit. Some materials are better conductors than others. When a battery or cell is connected in a circuit, it provides a push (voltage) that causes electrons (current) to flow in a circuit.</p>		<p><u>Electricity Y6</u> There are recognised symbols for circuits and their components. An increase in voltage will cause an increase in current. For a fixed voltage an increase in resistance will cause a decrease in current. Some components can resist the current more than others.</p>
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	<p><u>Seasonal change Y1(Link to Y5 Earth and Space)</u> Temperature and day length changes over the year - this pattern is referred to as the seasons. The sun appears to move across the sky.</p>		<p><u>Rocks Y3</u> Different materials, including rocks, have different properties (Link to Y1 Everyday Materials) Soils are a mixture of rocks and organic matter. Fossils are formed when trapped within rock.</p>	<p><u>States of matter Y4</u> Materials can be solids, liquids or gases. Some materials change state when heated or cooled. Heating causes melting and evaporation. Removing heat causes condensing and solidifying (freezing)</p>	<p><u>Earth and Space Y5</u> The Earth, Sun and Moon are approximately spherical. The Earth is one of eight planets that orbit the sun.The Earth orbits the Sun once every year. The Earth rotates on its own axis once every 24 hours. The moon orbits the Earth and looks different at different times of the month. The seasons change as the Earth's position changes relative to the Sun. It is due to the rotation of the Earth that we experience day and night.</p>	<p><u>Evolution and inheritance Y6</u> Living things produce offspring of the same kind, but not identical. Adaptation may lead to evolution. Living things have changed over time. Plants and animals are adapted to suit their environment.</p>
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