



## Progression for Science

### Purpose of study

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

### Aims

The national curriculum for science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future

### Attainment Targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Year Group	Objectives			
	Working scientifically	Program of study National Curriculum		I can Statements
Preschool/ Reception	<ul style="list-style-type: none"> <li>• Make observations of things through a variety of means, including magnifiers and photographs.</li> <li>• Ask simple questions about observations</li> <li>• Make suggestions to explain why and how using knowledge gained</li> <li>• Sort and classify objects and give explanations e.g. dinosaurs</li> <li>• Record using a variety of ways and different technology</li> </ul>	<p align="center"><b>UNDERSTANDING THE WORLD</b></p> <p><b>30-50months</b> <b>The world</b> Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world. Can talk about some of the things they have observed such as plants, animals, natural and found objects. Talks about why things happen and how things work. Developing an understanding of growth, decay and changes over time. Shows care and concern for living things and the environment.</p> <p><b>Technology</b> Knows how to operate simple equipment, e.g. turns on CD player and uses remote control.</p>	<p><b>ELG:</b> <b>The World</b> Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes.</p> <p><b>Technology</b> Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.</p>	<p><b>Younger/Older</b> <b>The world:</b></p> <p>I can comment and ask questions about the world around me. I can talk about the things I observe. I can talk about why things happen and how. I can show an understanding of growth, decay and changes over time. I show care and concern for living things and the environment.</p> <p>I can talk about similarities and differences in relations to places, objects, materials and living things. I can talk about the features of my immediate environment and how environments may vary from one another. I can make observations of animals and plants and explain why some things occur and talk about changes. I can discuss change over time, for example, growing plants, and change that may be reversed, e.g. melting ice. I can record findings by, e.g. drawing, writing, making a model or photographing.</p>

		<p>Shows an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones.</p> <p>Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images.</p> <p>Knows that information can be retrieved from computers</p>		<p><b>Technology</b></p> <p>I can operate simple equipment.</p> <p>I show an interest in technological toys with knobs or pulleys.</p> <p>I can make toys work by pressing parts or lifting flaps to achieve effects.</p> <p>I know that information can be retrieved from computers.</p> <p>I recognise that a range of technology is used in school and home.</p> <p>I can select and use technology for particular purposes.</p>
<p><b>Year 1 &amp; Year 2</b></p>	<p>During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> <li>• asking simple questions and recognising that they can be answered in different ways</li> <li>• observing closely, using simple equipment</li> <li>• performing simple tests</li> </ul>	<p><b>YOUNGER Plants (yr1)</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</li> <li>• identify and describe the basic structure of a variety of</li> </ul>	<p><b>OLDER Plants (yr. 2)</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• observe and describe how seeds and bulbs grow into mature plants</li> <li>• find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</li> </ul>	<p><b>YOUNGER/ OLDER BIOLOGY</b></p> <p><b>Plants</b></p> <ul style="list-style-type: none"> <li>• I can name a variety of common wild and garden plants.</li> <li>• I can name the petals, stem, leaf and root of a plant.</li> <li>• I can name the roots, trunk, branches and leaves of a tree.</li> <li>• I can describe how seeds and bulbs grow into plants.</li> <li>• I can describe what plants need in order to grow and stay healthy</li> </ul>

<ul style="list-style-type: none"> <li>identifying and classifying</li> <li>using their observations and ideas to suggest answers to questions</li> <li>gathering and recording data to help in answering questions</li> </ul> <p><b>Teacher assessment framework</b></p> <p><i>Working scientifically:</i></p> <p><i>The pupil can, using appropriate scientific language from the national curriculum:</i></p> <ul style="list-style-type: none"> <li>ask their own questions about what they notice</li> <li>use different types of scientific enquiry to gather and record data, using simple equipment where appropriate, to answer questions: <ul style="list-style-type: none"> <li>observing changes over time</li> <li>noticing patterns</li> <li>grouping and classifying things</li> <li>carrying out simple comparative tests</li> <li>finding things out using secondary sources of information</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>identifying and classifying</li> <li>using their observations and ideas to suggest answers to questions</li> <li>gathering and recording data to help in answering questions</li> </ul> <p><b>Teacher assessment framework</b></p> <p><i>Working scientifically:</i></p> <p><i>The pupil can, using appropriate scientific language from the national curriculum:</i></p> <ul style="list-style-type: none"> <li>ask their own questions about what they notice</li> <li>use different types of scientific enquiry to gather and record data, using simple equipment where appropriate, to answer questions: <ul style="list-style-type: none"> <li>observing changes over time</li> <li>noticing patterns</li> <li>grouping and classifying things</li> <li>carrying out simple comparative tests</li> <li>finding things out using secondary sources of information</li> </ul> </li> </ul>	<p>common flowering plants, including trees</p> <p><b>Animals, including humans(yr1)</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</li> <li>identify and name a variety of common animals that are carnivores, herbivores and omnivores</li> <li>describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)</li> <li>identify, name, draw and label</li> </ul>	<p><b>Animals, including humans (yr. 2)</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>notice that animals, including humans, have offspring which grow into adults</li> <li>find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</li> <li>describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</li> </ul> <p><b>Living things and their habitats (yr. 2)</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>explore and compare the differences between things that are living, dead, and things that have never been alive</li> <li>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,</li> </ul>	<p>(water, light &amp; suitable temperature).</p> <p><b>Animals, including humans</b></p> <ul style="list-style-type: none"> <li>I can name a variety of animals including fish, amphibians, reptiles' birds and mammals.</li> <li>I can classify and name animals by what they eat (carnivore, herbivore and omnivore).</li> <li>I can sort animals into categories (including fish, amphibians, reptiles, birds and mammals).</li> <li>I can sort living and non-living things.</li> <li>I can name the parts of the human body that I can see.</li> <li>I can link the correct part of the human body to each sense.</li> </ul> <ul style="list-style-type: none"> <li>I can explain the basic stages in a life cycle for animals, including humans.</li> <li>I can describe what animals and humans need to survive.</li> <li>I can describe why exercise, a balanced diet and good hygiene are important for humans</li> </ul> <p><b>Living things and their habitats</b></p>
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	<p>• <i>communicate their ideas, what they do and what they find out in a variety of ways</i></p> <p><b>Working scientifically (Y1 and Y2)</b></p> <p>I can ask simple scientific questions.  I can use simple equipment to make observations.  I can carry out simple tests.  I can identify and classify things.  I can suggest what I have found out.  I can use simple data to answer questions</p>	<p>the basic parts of the human body and say which part of the body is associated with each sense</p> <p><b>Everyday materials(yr1)</b>  Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>distinguish between an object and the material from which it is made</li> <li>identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</li> <li>describe the simple physical properties of a variety of</li> </ul>	<p>and how they depend on each other</p> <ul style="list-style-type: none"> <li>identify and name a variety of plants and animals in their habitats, including microhabitats</li> <li>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</li> </ul> <p><b>Uses of everyday materials (yr. 2)</b>  Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</li> <li>find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</li> </ul>	<ul style="list-style-type: none"> <li>I can identify things that are living, dead and never lived.</li> <li>I can describe how a specific habitat provides for the basic needs of things living there (plants and animals).</li> <li>I can identify and name plants and animals in a range of habitats.</li> <li>I can match living things to their habitat.</li> <li>I can describe how animals find their food.</li> <li>I can name some different sources of food for animals.</li> <li>I can explain a simple food chain.</li> </ul> <p><b>CHEMISTRY</b></p> <p><b>Everyday materials</b></p> <ul style="list-style-type: none"> <li>I can distinguish between an object and the material it is made from.</li> <li>I can explain the materials that an object is made from.</li> <li>I can name wood, plastic, glass, metal, water and rock.</li> <li>I can describe the properties of everyday materials.</li> <li>I can group objects based on the materials they are made from.</li> </ul>
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		<p>everyday materials</p> <ul style="list-style-type: none"> <li>• compare and group together a variety of everyday materials on the basis of their simple physical properties</li> </ul> <p><b>Seasonal changes(yr1)</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• observe changes across the 4 seasons</li> <li>• observe and describe weather associated with the seasons and how day length varies</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>	<p><b>Uses of everyday materials</b></p> <ul style="list-style-type: none"> <li>• I can identify and name a range of materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard.</li> <li>• I can suggest why a material might or might not be used for a specific job.</li> <li>• I can explore how shapes can be changed by squashing, bending, twisting and stretching.</li> </ul> <p><b>Physics</b></p> <p><b>Seasonal changes</b></p> <ul style="list-style-type: none"> <li>• I can observe and comment on changes in the seasons.</li> <li>• I can name the seasons and suggest the type of weather in each season.</li> </ul> <p><b>End of Key Stage 1 Science specific TAF content:</b></p> <p>The pupil can:</p> <ul style="list-style-type: none"> <li>• name and locate parts of the human body, including those related to the senses [year 1], and describe the importance of exercise, a balanced diet and hygiene for humans [year 2]</li> </ul>
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				<ul style="list-style-type: none"> <li>• describe the basic needs of animals for survival and the main changes as young animals, including humans, grow into adults [year 2]</li> <li>• describe the basic needs of plants for survival and the impact of changing these and the main changes as seeds and bulbs grow into mature plants [year 2]</li> <li>• identify whether things are alive, dead or have never lived [year 2]</li> <li>• describe and compare the observable features of animals from a range of groups [year 1]</li> <li>• group animals according to what they eat [year 1], describe how animals get their food from other animals and/or from plants, and use simple food chains to describe these relationships [year 2]</li> <li>• describe seasonal changes [year 1]</li> <li>• name different plants and animals and describe how they are suited to different habitats [year 2]</li> <li>• distinguish objects from materials, describe their properties, identify and group everyday materials [year 1] and</li> </ul>
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				compare their suitability for different uses [year 2].
<b>Year 3 &amp; Year 4</b>	<p>During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> <li>• asking relevant questions and using different types of scientific enquiries to answer them</li> <li>• setting up simple practical enquiries, comparative and fair tests</li> <li>• making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</li> <li>• gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</li> </ul>	<p><b>YOUNGER Plants (yr3)</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</li> <li>• 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</li> <li>• investigate the way in which water is transported within plants</li> <li>• explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</li> </ul>	<p><b>OLDER Living things and their habitats (yr. 4)</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• recognise that living things can be grouped in a variety of ways</li> </ul> <p>explore and use:</p> <ul style="list-style-type: none"> <li>• classification keys to help group, identify and name a variety of living things in their local and wider environment</li> <li>• recognise that environments can change and that this can sometimes pose dangers to living things</li> </ul>	<p><b>YOUNGER/ OLDER</b></p> <p><b>Biology Plants</b></p> <ul style="list-style-type: none"> <li>• I can describe the function of different parts of flowering plants and trees.</li> <li>• I can explore and describe the needs of different plants for survival.</li> <li>• I can explore and describe how water is transported within plants.</li> <li>• I can describe the plant life cycle, especially the importance of flowers.</li> </ul> <p><b>Animals, including humans</b></p> <ul style="list-style-type: none"> <li>• I can explain the importance of a nutritious, balanced diet.</li> <li>• I can explain how nutrients, water and oxygen are transported within animals and humans.</li> <li>• I can describe and explain the skeletal system of a human.</li> <li>• I can describe and explain the muscular system of a human.</li> <li>• I can describe the purpose of the skeleton in humans and animals.</li> <li>• I can identify and name the parts of the human digestive system.</li> </ul>



<ul style="list-style-type: none"> <li>• recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</li> <li>• reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</li> <li>• using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</li> <li>• identifying differences, similarities or changes related to simple scientific ideas and processes</li> <li>• using straightforward scientific evidence to answer questions or to support their findings.</li> </ul>	<ul style="list-style-type: none"> <li>• recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</li> <li>• reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</li> <li>• using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</li> <li>• identifying differences, similarities or changes related to simple scientific ideas and processes</li> <li>• using straightforward scientific evidence to answer questions or to support their findings.</li> </ul>	<p><b>Animals, including humans (yr. 3)</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• identify that humans and some other animals have skeletons and muscles for support, protection and movement</li> </ul> <p><b>Rocks (yr. 3)</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</li> <li>• describe in simple terms how fossils are formed when things</li> </ul>	<p><b>Animals, including humans (yr. 4)</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• describe the simple functions of the basic parts of the digestive system in humans</li> <li>• identify the different types of teeth in humans and their simple functions</li> <li>• construct and interpret a variety of food chains, identifying producers, predators and prey</li> </ul> <p><b>States of matter (yr. 4)</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• compare and group materials together, according to whether they are solids, liquids or gases</li> <li>• 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)</li> </ul>	<ul style="list-style-type: none"> <li>• I can describe the functions of the organs in the human digestive system.</li> <li>• I can identify and describe the different types of teeth in humans.</li> <li>• I can describe the functions of different human teeth.</li> <li>• I can use food chains to identify producers, predators and prey.</li> <li>• I can construct food chains to identify producers, predators and prey.</li> </ul> <p><b>Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>• I can group living things in different ways.</li> <li>• I can use classification keys to group, identify and name living things.</li> <li>• I can create classification keys to group, identify and name living things (for others to use). I can describe how changes to an environment could endanger living things.</li> </ul> <p><b>Chemistry</b></p> <p><b>Rocks</b></p> <ul style="list-style-type: none"> <li>• I can compare and group rocks based on their appearance and physical properties, giving a reason.</li> <li>• I can describe how fossils are formed.</li> </ul>
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		<p>that have lived are trapped within rock</p> <ul style="list-style-type: none"> <li>recognise that soils are made from rocks and organic matter</li> </ul> <p><b>Light (yr3)</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>recognise that they need light in order to see things and that dark is the absence of light</li> <li>notice that light is reflected from surfaces</li> <li>recognise that light from the sun can be dangerous and that there are ways to protect their eyes</li> <li>recognise that shadows are formed when the light from a light source is blocked by an opaque object</li> <li>find patterns in the way that the size of shadows change</li> </ul>	<ul style="list-style-type: none"> <li>identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</li> </ul> <p><b>Sound (yr. 4)</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>identify how sounds are made, associating some of them with something vibrating</li> </ul> <p>recognise that vibrations from sounds travel through a medium to the ear</p> <ul style="list-style-type: none"> <li>find patterns between the pitch of a sound and features of the object that produced it</li> <li>find patterns between the volume of a sound and the strength of the vibrations that produced it</li> <li>recognise that sounds get fainter as the distance from the sound source increases</li> </ul> <p><b>Electricity (yr. 4)</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>identify common appliances that run on electricity</li> <li>construct a simple series electrical circuit, identifying</li> </ul>	<ul style="list-style-type: none"> <li>I can describe how soil is made.</li> <li>I can describe and explain the difference between sedimentary and igneous rock.</li> </ul> <p><b>States of matter</b></p> <ul style="list-style-type: none"> <li>I can group materials based on their state of matter (solid, liquid, gas).</li> <li>I can describe how some materials can change state.</li> <li>I can explore how materials change state.</li> <li>I can measure the temperature at which materials change state.</li> <li>I can describe the water cycle.</li> <li>I can explain the part played by evaporation and condensation in the water cycle.</li> </ul> <p><b>Physics</b></p> <p><b>Light</b></p> <ul style="list-style-type: none"> <li>I can describe what dark is (the absence of light).</li> <li>I can explain that light is needed in order to see.</li> <li>I can explain that light is reflected from a surface.</li> <li>I can explain and demonstrate how a shadow is formed.</li> <li>I can explore shadow size and explain.</li> </ul>
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		<p><b>Forces and magnets (yr. 3)</b></p> <ul style="list-style-type: none"> <li>• compare how things move on different surfaces</li> <li>• notice that some forces need contact between 2 objects, but magnetic forces can act at a distance</li> <li>• observe how magnets attract or repel each other and attract some materials and not others</li> <li>• 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</li> <li>• describe magnets as having 2 poles</li> <li>• predict whether 2 magnets will attract or repel each other, depending on which poles are facing</li> </ul>	<p>and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</li> <li>• recognise some common conductors and insulators, and associate metals with being good conductors</li> </ul>	<ul style="list-style-type: none"> <li>• I can explain the danger of direct sunlight and describe how to keep protected.</li> </ul> <p><b>Forces and magnets</b></p> <ul style="list-style-type: none"> <li>• I can explore and describe how objects move on different surfaces.</li> <li>• I can explain how some forces require contact and some do not, giving examples.</li> <li>• I can explore and explain how objects attract and repel in relation to objects and other magnets.</li> <li>• I can predict whether objects will be magnetic and carry out an enquiry to test this out.</li> <li>• I can describe how magnets work.</li> <li>• I can predict whether magnets will attract or repel and give a reason.</li> </ul> <p><b>Sound</b></p> <ul style="list-style-type: none"> <li>• I can describe how sound is made.</li> <li>• I can explain how sound travels from a source to our ears.</li> <li>• I can explain the place of vibration in hearing.</li> <li>• I can explore the correlation between pitch and the object producing a sound.</li> <li>• I can explore the correlation between the volume of a sound and the strength of the vibrations that produced it.</li> </ul>
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				<ul style="list-style-type: none"> <li>I can describe what happens to a sound as it travels away from its source.</li> </ul> <p><b>Electricity</b></p> <ul style="list-style-type: none"> <li>I can identify and name appliances that require electricity to function.</li> <li>I can construct a series circuit.</li> <li>I can identify and name the components in a series circuit (including cells, wires, bulbs, switches and buzzers).</li> <li>I can draw a circuit diagram.</li> <li>I can predict and test whether a lamp will light within a circuit.</li> <li>I can describe the function of a switch in a circuit.</li> <li>I can describe the difference between a conductor and insulators; giving examples of each.</li> </ul>
<p><b>Year 4 &amp; Year 5</b></p>	<p>During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> <li>planning different types of scientific enquiries to answer questions, including recognising</li> </ul>	<p><b>Younger Living things and their habitats (yr. 4)</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>recognise that living things can be grouped in a variety of ways</li> <li>explore and use classification keys to help group, identify</li> </ul>	<p><b>Older Living things and their habitats (yr. 5)</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</li> <li>describe the life process of reproduction in some plants and animals</li> </ul>	<p><b>YOUNGER/ OLDER</b></p> <p><b>Biology</b></p> <p><b>Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>I can group living things in different ways.</li> <li>I can use classification keys to group, identify and name living things.</li> </ul>

	<p>and controlling variables where necessary</p> <ul style="list-style-type: none"> <li>• taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</li> <li>• recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</li> <li>• using test results to make predictions to set up further comparative and fair tests</li> <li>• reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations</li> <li>• identifying scientific evidence that has been</li> </ul>	<p>and name a variety of living things in their local and wider environment recognise that environments can change and that this can sometimes pose dangers to living things</p> <p><b>Animals, including humans (yr. 4)</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• describe the simple functions of the basic parts of the digestive system in humans</li> <li>• identify the different types of teeth in humans and their simple functions</li> <li>• construct and interpret a variety of food chains, identifying producers, predators and prey</li> </ul> <p><b>States of matter (yr. 4)</b> Pupils should be taught to:</p>	<p><b>Animals, including humans (yr. 5)</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• describe the changes as humans develop to old age</li> </ul> <p><b>Properties and changes of materials (yr. 5)</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity</li> </ul>	<ul style="list-style-type: none"> <li>• I can create classification keys to group, identify and name living things (for others to use). I can describe how changes to an environment could endanger living things.</li> <li>• I can describe the life cycle of different living things, e.g. mammal, amphibian, insect bird.</li> <li>• I can describe the differences between different life cycles.</li> <li>• I can describe the process of reproduction in plants.</li> <li>• I can describe the process of reproduction in animals.</li> </ul> <p><b>Animals, including humans</b></p> <ul style="list-style-type: none"> <li>• I can identify and name the parts of the human digestive system.</li> <li>• I can describe the functions of the organs in the human digestive system.</li> <li>• I can identify and describe the different types of teeth in humans.</li> <li>• I can describe the functions of different human teeth.</li> <li>• I can use food chains to identify producers, predators and prey.</li> <li>• I can construct food chains to identify producers, predators and prey</li> </ul>
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	<p>used to support or refute ideas or arguments</p>	<ul style="list-style-type: none"> <li>compare and group materials together, according to whether they are solids, liquids or gases</li> <li>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)</li> <li>identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</li> </ul>	<p>(electrical and thermal), and response to magnets</p> <ul style="list-style-type: none"> <li>know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</li> <li>use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</li> <li>give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</li> <li>demonstrate that dissolving, mixing and changes of state are reversible changes</li> <li>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</li> </ul> <p><b>Forces (yr. 5)</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>explain that unsupported objects fall towards the</li> </ul>	<ul style="list-style-type: none"> <li>I can create a timeline to indicate stages of growth in humans.</li> </ul> <p><b>Chemistry</b></p> <p><b>States of matter</b></p> <ul style="list-style-type: none"> <li>I can group materials based on their state of matter (solid, liquid, gas).</li> <li>I can describe how some materials can change state.</li> <li>I can explore how materials change state.</li> <li>I can measure the temperature at which materials change state.</li> <li>I can describe the water cycle.</li> <li>I can explain the part played by evaporation and condensation in the water cycle.</li> </ul> <p><b>Properties and changes of materials</b></p> <ul style="list-style-type: none"> <li>I can compare and group materials based on their properties (e.g. hardness, solubility, transparency, conductivity, [electrical &amp; thermal], and response to magnets).</li> <li>I can describe how a material dissolves to form a solution; explaining the process of dissolving.</li> <li>I can describe and show how to recover a substance from a solution.</li> </ul>
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		<ul style="list-style-type: none"> <li>• recognise some common conductors and insulators, and associate metals with being good conductors</li> </ul> <p><b>Sound (yr. 4)</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• identify how sounds are made, associating some of them with something vibrating</li> <li>• recognise that vibrations from sounds travel through a medium to the ear</li> <li>• find patterns between the pitch of a sound and features of the object that produced it</li> <li>• find patterns between the volume of a sound and the strength of the vibrations that produced it</li> <li>• recognise that sounds get fainter as the distance from</li> </ul>		<ul style="list-style-type: none"> <li>• I can describe what happens to a sound as it travels away from its source.</li> </ul> <p><b>Electricity</b></p> <ul style="list-style-type: none"> <li>• I can identify and name appliances that require electricity to function.</li> <li>• I can construct a series circuit.</li> <li>• I can identify and name the components in a series circuit (including cells, wires, bulbs, switches and buzzers).</li> <li>• I can draw a circuit diagram.</li> <li>• I can predict and test whether a lamp will light within a circuit.</li> <li>• I can describe the function of a switch in a circuit.</li> <li>• I can describe the difference between a conductor and insulators; giving examples of each.</li> </ul> <p><b>Earth and space</b></p> <ul style="list-style-type: none"> <li>• I can describe and explain the movement of the Earth and other planets relative to the Sun.</li> <li>• I can describe and explain the movement of the Moon relative to the Earth.</li> <li>• I can explain and demonstrate how night and day are created.</li> </ul>
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the sound source  
increases

- I can describe the Sun, Earth and Moon (using the term spherical).
- Forces
- I can explain what gravity is and its impact on our lives.
- I can identify and explain the effect of air resistance.
- I can identify and explain the effect of water resistance.
- I can identify and explain the effect of friction.
- I can explain how levers, pulleys and gears allow a smaller force to have a greater effect.