

Science Curriculum

Leedstown



Level Expected at the End of EYFS

Communication and Language

- Learn new vocabulary.
- Ask questions to find out more and to check what has been said to them.
- Articulate their ideas and thoughts in well-formed sentences.
- Describe events in some detail.
- Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen.

- Use new vocabulary in different contexts

~PSED

- Know and talk about the different factors that support their overall health and wellbeing:
 - regular physical activity
 - healthy eating
 - tooth brushing
 - sensible amounts of 'screen time'
 - having a good sleep routine
 - being a safe pedestrian

Understanding of the World

- Explore the natural world around them.
- Describe what they see, hear and feel while they are outside.
- Recognise some environments that are different to the one in which they live.
- Understand the effect of changing seasons on the natural world around them.

Communication and Language – Listening, Attention and Understanding

- Make comments about what they have heard and ask questions to clarify their understanding.

PSED – Managing Self

- Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.

Understanding of the World – The Natural World

- Explore the natural world around them, making observations and drawing pictures of animals and plants.
- Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.
- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Key Stage 1 National Curriculum Expectations – working scientifically

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:

- asking simple questions and recognising that they can be answered in different ways;
- observing closely, using simple equipment;
- performing simple tests;
- identifying and classifying;

using their observations and ideas to suggest answers to questions; gathering and recording data to help in answering questions.

Key Stage 2 National Curriculum Expectations – working scientifically

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:

- asking relevant questions and using different types of scientific enquiries to answer them;
- setting up simple practical enquiries, comparative and fair tests;
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers;
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions;
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables;
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions;
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions;
- identifying differences, similarities or changes related to simple scientific ideas and processes; using straightforward scientific evidence to answer questions or to support their findings.

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:

- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary;
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate;
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs;
- using test results to make predictions to set up further comparative and fair tests;
- 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;
- identifying scientific evidence that has been used to support or refute ideas or arguments.

A/B/C Rolling Programme

	EYFS/Y1		Y2/3		Y4/5/6		
	Year A	Year B	Year A	Year B	Year A	Year B	Year C
Autumn Term 1	Animals including humans – Our body	Plants	Plants	Plants	Animals including humans	Living things and their habitats Materials	All living things
Autumn Term 2	Materials	Animals including humans	Everyday materials	Living things and their habitats	Living things and their habitats	Animals including humans Materials	Evolution
Spring Term 1	Plants	Animals including humans (artic animal focus)	Living things and their habitats	Rocks and soils	States of matter	Sound and forces?	SRE
Spring Term 2	Animals including humans	Materials	Forces	Animals including humans - growth	Electricity	Animals including humans	Animals including humans – life cycles
Summer Term 1	Materials	Seasonal changes	Animals including humans	Animals including humans	Sound	Light	Living things and their habitats - conservation
Summer Term 2	Seasonal Changes	Materials (physical properties investigations)	Light	Forces - magnets	Forces	Space	Electricity

Science Curriculum Plan – Cycle A

	Starlings			Magpies			Eagles		
	EYFS		Y1	Y2		Y3	Y5	Y5	Y6
	Autumn	Spring	Summer	Autumn	Spring	Summer	Autumn	Spring	Summer
Intent and theme	Autumn 1 Animals including humans Autumn 2 Materials (EYFS/Y1)	Spring 1 Plants Spring 2 Animals including humans	Summer 1 Materials - describe Summer 2 Seasonal changes	Autumn 1 Plants Autumn 2 Everyday materials	Spring 1 Living things and their habitats Spring 2 Forces - magnets	Summer 1 Animals including humans Summer 2 Light	Autumn 1 Animals including humans Autumn 2 Living things and habitats	Spring 1 States of matter Spring 2 Electricity	Summer 1 Sound Summer 2 Forces
knowledge	<p>Autumn 1 How to classify themselves as a mammal</p> <p>How to identify, name, draw and label the basic parts of the human body</p> <p>How to identify the five senses and say which part of the body is associated with each sense</p> <p>Autumn 2 How to identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</p> <p>The difference between an object and the material from which it is made</p>	<p>Spring 1 How to identify and name a variety of common wild and garden plants How to identify and describe the basic structure of a variety of common flowering plants How to identify different types of trees, including whether they are deciduous or evergreen trees</p> <p>Spring 2 How to identify and name a variety of common animals (including fish, amphibians, reptiles, birds and mammals) What common animals eat and classify them as carnivores, herbivores and omnivores The body covering (fur, skin, feathers) and significant body parts (fins, scales) of different animal groups (fish, amphibians, reptiles, birds and mammals, including pets) Which animals are hot or cold-blooded</p>	<p>Summer 1 Recap – How to identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock Recap – The difference between an object and the material from which it is made How to describe the simple physical properties of a variety of everyday materials (hard/soft, stretchy/stiff, shiny/dull, waterproof/non-waterproof, opaque/see-through) How to compare and group together a variety of everyday materials on the basis of their simple physical properties</p> <p>Summer 2 The names of all four seasons Different types of weather How to observe and describe weather associated with the seasons and observe changes across the four seasons How day length varies (using vocabulary like longer and shorter, mid-summer and mid-winter)</p>	<p>Autumn 1 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>How to identify and name a variety of plants and animals in their habitats, including micro-habitats</p> <p>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>Autumn 2 How to identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</p> <p>How the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p>	<p>Spring 1 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>How to identify and name a variety of plants and animals in their habitats, including micro-habitats</p> <p>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>Spring 2 That some forces need contact between two objects, but magnetic forces can act at a distance</p> <p>How magnets attract or repel each other and attract some materials and not others</p> <p>How to 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>How to describe magnets as having two poles</p> <p>Whether two magnets will attract or repel each other, depending on which poles are facing</p> <p>How things move on different surfaces</p>	<p>Summer 1 How to find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>The importance for humans of exercise, eating the right amounts of different types of food, and hygiene</p> <p>That animals, including humans, have offspring which grow into adults</p> <p>Summer 2</p> <p>That they need light in order to see things and that dark is the absence of light</p> <p>That light from the Sun can be dangerous and that there are ways to protect their eyes</p> <p>That light is reflected from surfaces</p> <p>That shadows are formed when the light from a light source is blocked by an opaque object</p> <p>How to find patterns in the way that the size of shadows change</p>	<p>Autumn 1 The simple functions of the basic parts of the digestive system in humans The different types of teeth in humans and their simple functions</p> <p>Autumn 2 The differences in the life cycles of a mammal, an amphibian, an insect and a bird The life process of reproduction in some plants and animals</p>	<p>Spring 1 How to compare and group materials together, according to whether they are solids, liquids or gases 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) The part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</p> <p>Spring 2 How to identify common appliances that run on electricity</p> <p>How to construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <p>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>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>Some common conductors and insulators, and associate metals with being good conductors</p> <p>The brightness of a lamp or the volume of a buzzer is linked with the number and voltage of cells used in the circuit</p> <p>Reasons for variations in how components function, including the</p>	<p>Summer 1 How sounds are made, associating some of them with something vibrating That vibrations from sounds travel through a medium to the ear How to find patterns between the pitch of a sound and features of the object that produced it How to find patterns between the volume of a sound and the strength of the vibrations that produced it That sounds get fainter as the distance from the sound source increases</p> <p>Summer 2 That unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</p> <p>The effects of air resistance, water resistance and friction, that act between moving surfaces</p> <p>That some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect</p>

								brightness of bulbs, the loudness of buzzers and the on/off position of switches Recognised symbols when representing a simple circuit in a diagram	
composite	Autumn 1 What are my 5 senses? Autumn 2 Why do we use different materials for different jobs?	Spring 1 How do plants grow? Spring 2 Can any animal be my pet?	Summer 1 Using materials Summer 2 Why do we have different seasons?	Autumn 1 Do plants eat? Autumn 2 How can I group materials?	Spring 1 What habitats are around the world? Spring 2 How do things move on different surfaces?	Summer 1 What is a life cycle? Summer 2 What can I see?	Autumn 1 What does my body do with food? Autumn 2 ***	Spring 1 What do we know about space? Spring 2 ***	Summer 1 How do I hear? Summer 2 ***
Components	Autumn 1 What are the different parts of the human body? How do my eyes work? How do my ears work? How do I taste? How do I smell things? Autumn 2 What are materials? How are materials different? What are objects made from? How can we sort materials? Which material would be best for an umbrella? Which material would be best for curtains?	Spring 1 What is a plant? What are the parts of a plant and tree called? What plants grow in our school? What are the different types of trees? Can we eat plants? Can we measure the growth of a plant? Spring 2 What are the animal families? How are animals different? Do all animals eat the same thing? Comparing mammals, birds, amphibians, reptiles and fish. Can any animal be my pet?	Summer 1 Can you build a waterproof structure? Which materials would work well? Summer 2 What happens in Spring? What happens in Summer? What happens in Autumn? What happens in Winter? How can we measure rainfall? Why do we have different seasons?	Autumn 1 Are all seeds the same? What do plants need? What is the life cycle of a plant? Which plants can we eat? Can plants adapt to their environment? Autumn 2 What are different materials used for? How are materials suitable for different purposes? What materials are suitable to build a bridge? Which materials are stretchy? How can materials change their shape? Which materials change shape?	Spring 1 Recap, what is a habitat? How do environments change? What is rainforest habitat like? What is life like in the ocean? What are Artic and Antarctic Habitats like? Can I create a model habitat? Spring 2 What are contact and non-contact forces? How do things move on different surfaces? What are the different types of magnets? Which materials are magnetic? Do magnets attract each other? Are all magnets the same strength?	Summer 1 What are the stages of the human life cycle? What is stage like? What is the offspring and parent of? What is the life cycle of a chicken like? What is the life cycle of a butterfly like? What is the life cycle of a frog like? Summer 2 What is light? What is reflected light? Is the sun dangerous? What is a shadow? Does moving the light source change the shadow? How do mirrors work?	Autumn 1 What is the digestive system? How does the digestive system work? Why are teeth different shapes? How can different drinks affect our teeth? What is a food chain? What is a food web? Autumn 2 How do we classify living organisms? What are the kingdoms of life? How do we classify living things using the Linnaean system? What are the different characteristics of different types of organisms? How does asexual reproduction occur through spore dispersal? Classify and describe a living organism	Spring 1 What are the 3 states of matter? How do particles behave in the 3 states of matter? How do materials change state? What is the water cycle? Spring 2 Which appliances use electricity? How can I make a simple circuit? How can we tell which materials are conductors or insulators? How do switches affect a circuit? What are the parts of an electric circuit? How does voltage effect an electrical circuit? How can we identify and correct problems in a circuit? What affects the output of a circuit? How can I build a set of traffic lights? What are conductors and insulators?	Summer 1 How are sounds made? What are sound vibrations? What is inside your ear? How does the size of the pinnae affect the volume of sound? What is pitch? Which is the best material at muffling sound? Summer 2 What is gravity? How do parachutes work? What can resist water? How does friction effect different surfaces? How do levers and pulleys work? How do gears work?
Assessment Checkpoints	Identify the basic parts of the human body and explain what they are used for including head, neck, skin, arms, elbows, legs, knees, face, ears, eyes, hair, mouth and teeth. Understand that our eyes allow us to see and know the basic parts of the eye. Understand that our ears allow us to hear and help us tell the direction the sound is coming from. Understand our tongue allows us to taste and explain why our sense of taste is important.	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, including trees. Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Identify and name a variety of common animals that are carnivores, herbivores and omnivores.	Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials based on their simple physical properties. Asking simple questions and recognising that they can be answered in different ways. Observing closely, using simple equipment. Performing simple tests. Identifying and classifying. Using their observations and ideas to suggest answers to questions.	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. Identify and name a variety of plants and animals in their habitats, including micro-habitats. 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.	*** Compare how things move on different surfaces. Notice that some forces need contact between two objects, but magnetic forces can act at a distance. Observe how magnets attract or repel each other and attract some materials and not others. Compare and group together a variety of everyday materials based on whether they are attracted to a magnet and identify some magnetic materials.	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. 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.	Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions. 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	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). Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. Identify common appliances that run on electricity. Construct a simple series electrical circuit, identifying and naming its basic parts, including cells,	Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Find patterns between the pitch of a sound and features of the object that produced it. Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases.

	<p>Describe a range of different flavours. Understand that skin allows us to feel and we can feel a range of textures. Know that our fingertips are sensitive to touch.</p> <p>Distinguish between an object and the material 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 based on their simple physical properties.</p>	<p>Describe and compare the structure of a variety of common animals. 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>Gathering and recording data to help in answering questions.</p> <p>Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies.</p>	<p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>Describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>	<p>Recognise that they need light to see things and that dark is the absence of light. Notice that light is reflected from surfaces. Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. Recognise that shadows are formed when the light from a light source is blocked by an opaque object. Find patterns in the way that the size of shadows change.</p>	<p>animals based on specific characteristics</p>	<p>wires, bulbs, switches and buzzers. 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. Recognise that a switch opens and closes a circuit and associate this with whether a lamp lights in a simple series circuit or not. Recognise some common conductors and insulators, and associate metals with being good conductors. 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. Use recognised symbols when representing a simple circuit in a diagram.</p>	<p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Identify the effects of air resistance, water resistance and friction, that act between moving surfaces. Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. Compare and group together everyday materials based on their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.</p>
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Science Curriculum Plan – Cycle B

	Starlings Class			Magpies Class			Eagles Class		
	EYFS		Y1	Y2		Y3	Y4	Y5	Y6
	Autumn	Spring	Summer	Autumn	Spring	Summer	Autumn	Spring	Summer
Intent and theme	Autumn 1 Plants Autumn 2 Animals including humans	Spring 1 Animals including humans (arctic animal focus) Spring 2 Materials	Summer 1 Seasonal changes Summer 2 Materials (physical properties)	Autumn 1 Plants Autumn 2 Living things and their habitats	Spring 1 Rocks and soil Spring 2 Animals including humans	Summer 1 Animals including humans Summer 2 Forces – surfaces	Autumn 1 Living things and their habitats Autumn 2 Animals including humans	Spring Materials	Summer 1 Light Summer 2 Space – solar system
Knowledge	Autumn 1 How to identify and name a variety of common wild and garden plants How to identify and describe the basic structure of a variety of common flowering plants How to identify different types of trees, including whether they are deciduous or evergreen trees Autumn 2 How to classify themselves as a mammal How to identify, name, draw and label the basic parts of the human body How to identify the five senses and say which part of the body is associated with each sense	Spring 1 How to identify and name a variety of common animals (including fish, amphibians, reptiles, birds and mammals) What common animals eat and classify them as carnivores, herbivores and omnivores The body covering (fur, skin, feathers) and significant body parts (fins, scales) of different animal groups (fish, amphibians, reptiles, birds and mammals, including pets) Which animals are hot or cold-blooded Spring 2 How to identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock The difference between an object and the material from which it is made	Summer 1 The names of all four seasons Different types of weather How to observe and describe weather associated with the seasons and observe changes across the four seasons How day length varies (using vocabulary like longer and shorter, mid-summer and mid-winter) Summer 2 Recap – How to identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock Recap – The difference between an object and the material from which it is made How to describe the simple physical properties of a variety of everyday materials (hard/soft, stretchy/stiff, shiny/dull, waterproof/non-waterproof, opaque/see-through) How to compare and group together a variety of everyday materials on the basis of their simple physical properties	Autumn 1 How to identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers The part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal 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 How to investigate the way in which water is transported within plants Autumn 2 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 How to identify and name a variety of plants and animals in their habitats, including micro-habitats 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.	Spring 1 How to compare and group together different kinds of rocks on the basis of their appearance and simple physical properties That soils are made from rocks and organic matter In simple terms how fossils are formed when things that have lived are trapped within rock Spring 2 How to find out about and describe the basic needs of animals, including humans, for survival (water, food and air) The importance for humans of exercise, eating the right amounts of different types of food, and hygiene	Summer 1 That animals cannot make their own food and they get nutrition from what they eat and that this comes in different types (protein, fat, carbohydrates, vitamins and minerals) That animals, including humans, need the right types and amount of nutrition That humans and some other animals have skeletons and muscles for support, protection and movement Summer 2 How things move on different surfaces	Autumn 1 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 Reasons for classifying plants and animals based on specific characteristics Autumn 2 The main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood The impact of diet, exercise, drugs and lifestyle on the way their bodies function The ways in which nutrients and water are transported within animals, including humans	Spring How 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 That some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution How to use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating How to give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic That dissolving, mixing and changes of state are reversible changes 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	Summer 1 That light appears to travel in straight lines The idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye That we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes The idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them Summer 2 The movement of the Earth, and other planets, relative to the Sun in the solar system The movement of the Moon relative to the Earth How to describe the Sun, Earth and Moon as approximately spherical bodies How to use the idea of the Earth’s rotation to explain day and night and the apparent movement of the Sun across the sky
Composite	Autumn 1 How can we sort the plants we find growing at our school?	Spring 1 How does animals survive in the cold?	Summer 1 Why does the weather change?	Autumn 1 How are plants used to survive in the rainforest?	Spring 1 What is the world made of?	Summer 1 Are human bodies the same as animal bodies?	Autumn 1 How do I group animals and living things?	Spring How does your body work?	Summer 1 How does light travel? Summer 2

	Autumn 2 What is special about me?	Spring 2 How do materials keep me safe?	Summer 2 Why is my bucket made of plastic?	Autumn 2 What is a habitat?	Spring 2 What do animals and humans need to stay healthy and survive?	Summer 2 How can I make a vehicle move using magnets?	Autumn 2 How does your body work?		What do we know about space?
Components	<p>Autumn 1 What is a plant? What are the parts of a plant and tree called? What plants grow in our school? What are the different types of trees? Can we eat plants? Can we measure the growth of a plant?</p> <p>Autumn 2 What are the different parts of the human body? How do my eyes work? How do my ears work? How do I taste? How do I smell things? How are living things adapted to their habitat? How do we get food? <i>From farm to shop</i></p>	<p>Spring 1 What are the animal families? How are animals different? Do all animals eat the same thing? Comparing mammals, birds, amphibians, reptiles and fish. Can any animal be my pet?</p> <p>Spring 2 Can you build a waterproof structure? Which materials would work well?</p>	<p>Summer 1 What happens in Spring? What happens in Summer? What happens in Autumn? What happens in Winter? How can we measure rainfall? Why do we have different seasons?</p> <p>Summer 2 What are materials? How are materials different? What are objects made from? How can we sort materials? Which material would be best for an umbrella? Which material would be best for curtains?</p>	<p>Autumn 1 Are all seeds the same? What do plants need? What is the life cycle of a plant? Which plants can we eat? Can plants adapt to their environment?</p> <p>Autumn 2 What is the difference between living things, dead things and things that have never been alive? Which plants and animals can we find a microhabitat? What does a living thing need to survive in a micro habitat? What do animals eat to survive in their habitats? What is a food chain? How does food travel from the farm to the supermarket?</p>	<p>Spring 1 How are igneous rocks formed? How are sedimentary and metamorphic rocks formed? Why do we use different rocks for different purposes? How does water weather rocks? How are fossils formed? What are the different types of soil?</p> <p>Spring 2 What does an animal need to survive? What does a human need to survive? Why is it important to eat the right food? What does a healthy and balanced diet look like? How does exercise impact our bodies? Why is being hygienic important?</p>	<p>Summer 1 What are the 5 key food groups? What are the nutrients in different foods? What are the different types of skeletons? What is the human skeleton like? What is an animal skeleton like? Why are muscles important?</p> <p>Summer 2</p>	<p>Autumn 1 How do we classify living organisms? What are the kingdoms of life? How do we classify living things using the Linnaean system? What are the different characteristics of different types of organisms? How does asexual reproduction occur through spore dispersal? Classify and describe a living organism</p> <p>Autumn 2 What is the function of the heart? What are blood vessels? What is blood? How does the body transport water and nutrients? What affects your heart rate? How do drugs and alcohol impact the body?</p>	<p>Spring What are the different properties of materials? What are thermal conductors and insulators? Why do materials get used for certain things? How can we separate mixtures? What are reversible and irreversible changes? What is a chemical reaction?</p>	<p>Summer 1 How does light travel? What is a reflection? How can we use reflections to help us see? How do shadows change? Why do shadows have the same shape as the object that casts them? What is light phenomena?</p> <p>Summer 2 What are the parts of an electric circuit? How does voltage effect an electrical circuit? How can we identify and correct problems in a circuit? What affects the output of a circuit? How can I build a set of traffic lights? What are conductors and insulators?</p> <p>What is the solar system? What are the planets? How does the Earth move in space? How do we have night and day? What are the phases of the moon?</p>
Assessment Checkpoints	<p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p>Identify the basic parts of the human body and explain what they are used for including head, neck, skin, arms, elbows, legs, knees, face, ears, eyes, hair, mouth and teeth. Understand that our eyes allow us to see and know the basic parts of the eye. Understand that our ears allow us to hear and help us tell the direction the sound is coming from. Understand our tongue allows us to taste and explain why our sense of taste is important. Describe a range of different flavours.</p>	<p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. 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. 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>Distinguish between an object and the material from which it is made. 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.</p>	<p>Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies.</p> <p>Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials based on their simple physical properties.</p>	<p>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>***</p>	<p>Compare and group together different kinds of rocks based on 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.</p> <p>***</p>	<p>***</p> <p>Compare how things move on different surfaces. Notice that some forces need contact between two objects, but magnetic forces can act at a distance. Observe how magnets attract or repel each other and attract some materials and not others. Compare and group together a variety of everyday materials based on whether they are attracted to a magnet and identify some magnetic materials. Describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>	<p>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.</p> <p>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Recognise the impact of diet, exercise, drugs and lifestyle on the way their body's function. Describe the ways in which nutrients and water are transported within animals, including humans.</p>	<p>Compare and group together everyday materials based on their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. 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.</p>	<p>Recognise that light appears to travel in straight lines. 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. 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. 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>Describe the movement of the Earth, and other planets, relative to the Sun in the solar system. Describe the movement of the Moon relative to the Earth. Describe the Sun, Earth and Moon as approximately spherical bodies.</p>

	Understand that skin allows us to feel and we can feel a range of textures. Know that our fingertips are sensitive to touch.	Compare and group together a variety of everyday materials based on their simple physical properties.							Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.
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Cycle C		
Eagles Class		
Y4	Y5	Y6
Autumn	Spring	Summer
Autumn 1 All living things Autumn 2 Evolution	Spring SRE Spring 2 Animals including humans (life cycles)	Summer 1 Living things and their habitats (conservation) Summer 2 Electricity
Autumn 1 That living things can be grouped in a variety of ways How to explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment That environments can change and that this can sometimes pose dangers to living things How to construct and interpret a variety of food chains, identifying producers, predators and prey Autumn 2 The main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood The impact of diet, exercise, drugs and lifestyle on the way their bodies function The ways in which nutrients and water are transported within animals, including humans	Spring 1 See PSHE progression document Spring 2 The differences in the life cycles of a mammal, an amphibian, an insect and a bird The life process of reproduction in some plants and animals	Summer 1 That living things can be grouped in a variety of ways How to explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment That environments can change and that this can sometimes pose dangers to living things How to construct and interpret a variety of food chains, identifying producers, predators and prey Summer 2 How to identify common appliances that run on electricity How to construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers 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 That a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit Some common conductors and insulators, and associate metals with being good conductors The brightness of a lamp or the volume of a buzzer is linked with the number and voltage of cells used in the circuit Reasons for variations in how components function, including

		<p>the brightness of bulbs, the loudness of buzzers and the on/off position of switches</p> <p>Recognised symbols when representing a simple circuit in a diagram</p>
<p>Autumn 1 How do living things survive?</p> <p>Autumn 2 Did humans used to be apes?</p>	<p>Spring 2 What are the different life cycles?</p>	<p>Summer 1 Why should we protect nature?</p> <p>Summer 2 Why is electricity important in London?</p>
<p>Autumn 1 What are the seven life processes? How can we sort and group animals? What are vertebrates? What is a classification key? How is our environment changing? What living things and habitats are in our local area?</p> <p>Autumn 2 Why aren't offspring identical to their parents? What are animal adaptations? What are plant adaptations? What can we learn from fossils? What is natural selection? How have humans evolved?</p>	<p>Spring 2 What are the life processes of a plant? What are the similarities and differences between insect and amphibian life cycles? What is the life cycle of a bird? What is the life cycle of a reptile? Who is David Attenborough and what does he do?</p>	<p>Summer 1 What are the seven life processes? How can we sort and group animals? What are vertebrates? What is a classification key? How is our environment changing? What living things and habitats are in our local area?</p> <p>Summer 2</p>
<p>Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group, identify 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>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.</p>	<p>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals. Describe the changes as humans develop to old age. Describe the life process of reproduction in some plants and animals.</p>	<p>Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group, identify 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>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. Use recognised symbols when representing a simple circuit in a diagram.</p>

Working Scientifically

	Working Scientifically		
	KS1	Lower KS2	Upper KS2
Asking Questions and Carrying Out Fair and Comparative Tests	<p>Asking simple questions and recognising that they can be answered in different ways. Performing simple tests. Children can:</p> <ul style="list-style-type: none"> a explore the world around them, leading them to ask some simple scientific questions about how and why things happen; b begin to recognise ways in which they might answer scientific questions; c ask people questions and use simple secondary sources to find answers; d carry out simple practical tests, using simple equipment; e experience different types of scientific enquiries, including practical activities; f talk about the aim of scientific tests they are working on. 	<p>Asking relevant questions and using different types of scientific enquiries to answer them. Setting up simple practical enquiries, comparative and fair tests. Children can:</p> <ul style="list-style-type: none"> a start to raise their own relevant questions about the world around them in response to a range of scientific experiences; b start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions; c recognise when a fair test is necessary; d help decide how to set up a fair test, making decisions about what observations to make, how long to make them for and the type of simple equipment that might be used; e set up and carry out simple comparative and fair tests. 	<p>Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Using test results to make predictions to set up further comparative and fair tests. Children can:</p> <ul style="list-style-type: none"> a with growing independence, raise their own relevant questions about the world around them in response to a range of scientific experiences; b with increasing independence, make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions; c explore and talk about their ideas, raising different kinds of scientific questions; d ask their own questions about scientific phenomena; e select and plan the most appropriate type of scientific enquiry to use to answer scientific questions; f 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; g plan, set up and carry out comparative and fair tests to answer questions, including recognising and controlling variables where necessary; h use their test results to identify when further tests and observations may be needed; i use test results to make predictions for further tests.
Observing and Measuring Changes	<p>KS1 Science National Curriculum Observing closely, using simple equipment. Children can:</p> <ul style="list-style-type: none"> a. observe the natural and humanly constructed world around them; b. observe changes over time; c. use simple measurements and equipment; d. d make careful observations, sometimes using equipment to help them observe carefully. 	<p>Lower KS2 Science National Curriculum Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Children can:</p> <ul style="list-style-type: none"> a. make systematic and careful observations; b. observe changes over time; c. use a range of equipment, including thermometers and data loggers; d. ask their own questions about what they observe; e. where appropriate, take accurate measurements using standard units using a range of equipment. 	<p>Upper KS2 Science National Curriculum Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Children can:</p> <ul style="list-style-type: none"> a. choose the most appropriate equipment to make measurements and explain how to use it accurately; b. take measurements using a range of scientific equipment with increasing accuracy and precision; c. make careful and focused observations; d. know the importance of taking repeat readings and take repeat readings where appropriate.
Identifying, Classifying, Recording and Presenting Data	<p>KS1 Science National Curriculum Identifying and classifying. Gathering and recording data to help in answering questions. Children can:</p> <ul style="list-style-type: none"> a. use simple features to compare objects, materials and living things; b. decide how to sort and classify objects into simple groups with some help; c. record and communicate findings in a range of ways with support; d. sort, group, gather and record data in a variety of ways to help in answering questions such as in simple sorting diagrams, pictograms, tally charts, block diagrams and simple tables. 	<p>Lower KS2 Science National Curriculum Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. Children can:</p> <ul style="list-style-type: none"> a. talk about criteria for grouping, sorting and classifying; b. group and classify things; c. collect data from their own observations and measurements; d. present data in a variety of ways to help in answering questions; e. use, read and spell scientific vocabulary correctly and with confidence, using their growing word reading and spelling knowledge; f. record findings using scientific language, drawings, labelled diagrams, keys, bar charts and tables. 	<p>Upper KS2 Science National Curriculum Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. Children can:</p> <ul style="list-style-type: none"> a. independently group, classify and describe living things and materials; b. use and develop keys and other information records to identify, classify and describe living things and materials; c. decide how to record data from a choice of familiar approaches; d. record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar graphs and line graphs.
	<p>KS1 Science National Curriculum Using their observations and ideas to suggest answers to questions. Children can:</p> <ul style="list-style-type: none"> a. notice links between cause and effect with support; b. begin to notice patterns and relationships with support; c. begin to draw simple conclusions; d. identify and discuss differences between their results; e. use simple and scientific language; f. read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage 1; g. talk about their findings to a variety of audiences in a variety of ways. 	<p>Lower KS2 Science National Curriculum Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Children can:</p> <ul style="list-style-type: none"> a. draw simple conclusions from their results; b. make predictions; c. suggest improvements to investigations; d. raise further questions which could be investigated; e. first talk about, and then go on to write about, what they have found out; f. report and present their results and conclusions to others in written and oral forms with increasing confidence. 	<p>Upper KS2 Science National Curriculum 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. Children can:</p> <ul style="list-style-type: none"> a. notice patterns; b. draw conclusions based in their data and observations; c. use their scientific knowledge and understanding to explain their findings; d. read, spell and pronounce scientific vocabulary correctly; e. identify patterns that might be found in the natural environment; f. look for different causal relationships in their data; g. discuss the degree of trust they can have in a set of results; h. independently report and present their conclusions to others in oral and written forms.

Working Scientifically						
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
<ul style="list-style-type: none"> Learn new vocabulary. Ask questions to find out more and to check what has been said to them. Articulate their ideas and thoughts in well-formed sentences. Describe events in some detail. Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. Use new vocabulary in different contexts <p>ELG: Communication and Language – Listening, Attention and Understanding</p> <ul style="list-style-type: none"> Make comments about what they have heard and ask questions to clarify their understanding. 	<p>Knowledge Data can be recorded and displayed in different ways, including tables, pictograms and drawings. Skill With support, gather and record simple data in a range of ways (data tables, diagrams, Venn diagrams).</p> <p>Knowledge Objects, materials and living things can be looked at and compared. Skill Observe objects, materials, living things and changes over time, sorting and grouping them based on their features</p> <p>Knowledge The results are information that has been found out from an investigation. Skill Talk about what they have done and say, with help, what they think they have found out.</p> <p>Knowledge The local environment is a habitat for living things and can change during the seasons.</p> <p>Skill Observe the local environment throughout the year and ask and answer questions about living things and seasonal change</p> <p>Knowledge Simple tests can be carried out by following a set of instructions.</p> <p>Skill With support, follow instructions to perform simple tests and begin to talk about what they might do or what might happen.</p> <p>Knowledge Simple equipment is used to take measurements and observations. Examples include metre sticks, measuring tapes, egg timers and hand lenses.</p> <p>Skill With support, use simple equipment to measure and make observations</p> <p>Knowledge Question words include what, why, how, when, who and which.</p> <p>Skill Ask simple scientific questions.</p>	<p>Knowledge Data can be recorded and displayed in different ways, including tables, charts, pictograms and drawings.</p> <p>Skill Use a range of methods (tables, charts, diagrams and Venn diagrams) to gather and record simple data with some accuracy.</p> <p>Knowledge Objects, materials and living things can be looked at, compared and grouped according to their features.</p> <p>Skill Observe objects, materials, living things and changes over time, sorting and grouping them based on their features and explaining their reasoning.</p> <p>Knowledge The results are information that has been found out from an investigation and can be used to answer a question.</p> <p>Skill Begin to notice patterns and relationships in their data and explain what they have done and found out using simple scientific language</p> <p>Knowledge Tests can be carried out by following a set of instructions. A prediction is a guess at what might happen in an investigation.</p> <p>Skill Follow a set of instructions to perform a range of simple tests, making simple predictions for what might happen and suggesting ways to answer their questions.</p> <p>Knowledge Simple equipment is used to take measurements and observations. Examples include timers, hand lenses, metre sticks and trundle wheels.</p> <p>Skill Use simple equipment to measure and make observations.</p> <p>Knowledge Questions can help us find out about the world.</p> <p>Skill Ask and answer scientific questions about the world around them.</p> <ul style="list-style-type: none"> 	<p>Knowledge Data can be recorded and displayed in different ways, including tables, charts, graphs and labelled diagrams. Data can be used to provide evidence to answer questions.</p> <p>Skill Gather and record findings in a variety of ways (diagrams, tables, charts and graphs) with increasing accuracy.</p> <p>Knowledge Equipment is used to take measurements in standard units. Examples include data loggers plus sensors, timers (seconds, minutes and hours), thermometers (°C) and metre sticks (millimetres, centimetres and metres). Taking repeat readings can increase the accuracy of the measurement.</p> <p>Skill Take measurements in standard units, using a range of simple equipment.</p> <p>Knowledge An observation involves looking closely at objects, materials and living things, which can be compared and grouped according to their features. Skill Make increasingly careful observations, identifying similarities, differences and changes and making simple connections.</p> <p>Knowledge Tests can be set up and carried out by following or planning a set of instructions. A prediction is a best guess for what might happen in an investigation based on some prior knowledge.</p> <p>Skill Set up and carry out some simple, comparative and fair tests, making predictions for what might happen.</p> <p>Knowledge Questions can help us find out about the world and can be answered in different ways.</p> <p>Skill Ask questions about the world around them and explain that they can be answered in different ways.</p> <p>Knowledge Results are information that has been discovered as part of an investigation. A conclusion is the answer to a question that uses the evidence collected.</p> <p>Skill Use suitable vocabulary to talk or write about what they have done, what the purpose was and, with help, draw a simple conclusion based on evidence collected, beginning to identify next steps or improvements.</p> <p>Knowledge Data can be recorded and displayed in different ways, including tables, charts, graphs and labelled diagrams. Data can be used to provide evidence to answer questions. Skill Gather and record findings in a variety of ways (diagrams, tables, charts and graphs) with increasing accuracy.</p> <p>Knowledge Results are information that has been discovered as part of an investigation. A conclusion is the answer to a question that uses the evidence collected. Skill Use suitable vocabulary to talk or write about what they have done, what the purpose was and, with help, draw a simple conclusion based on evidence collected, beginning to identify next steps or improvements.</p>	<p>Knowledge Data can be recorded and displayed in different ways, including tables, charts, graphs, keys and labelled diagrams.</p> <p>Skill Gather, record, classify and present observations and measurements in a variety of ways (pictorial representations, timelines, diagrams, keys, tables, charts and graphs).</p> <p>Knowledge Equipment is used to take measurements in standard units. Examples include data loggers plus sensors, timers (seconds, minutes and hours), thermometers (°C), and metre sticks, rulers or trundle wheels (millimetres, centimetres, metres). Skill Take accurate measurements in standard units, using a range of equipment.</p> <p>Knowledge An observation involves looking closely at objects, materials and living things. Observations can be made regularly to identify changes over time Skill Begin to choose which observations to make and for how long and make systematic, careful observations and comparisons, identifying changes and connections.</p> <p>Knowledge Scientific enquiries can be set up and carried out by following or planning a method. A prediction is a statement about what might happen in an investigation, based on some prior knowledge or understanding. A fair test is one in which only one variable is changed and all others remain constant.</p> <p>Skill Begin to independently plan, set up and carry out a range of comparative and fair tests, making predictions and following a method accurately.</p> <p>Knowledge Questions can help us find out about the world and can be answered using scientific enquiry.</p> <p>Skill Ask relevant scientific questions, independently, about the world around them and begin to identify how they can answer them.</p> <p>Knowledge Results are information, such as data or observations, that have been found out from an investigation. A conclusion is the answer to a question that uses the evidence collected.</p> <p>Skill Use scientific vocabulary to report and answer questions about their findings based on evidence collected, draw simple conclusions and identify next steps, improvements and further questions.</p> <p>Knowledge Data can be recorded and displayed in different ways, including tables, charts, graphs, keys and labelled diagrams. Skill Gather, record, classify and present observations and measurements in a variety of ways (pictorial representations, timelines, diagrams, keys, tables, charts and graphs).</p> <p>Knowledge Results are information, such as data or observations, that have been found out from an investigation. A conclusion is the answer to a question that uses the evidence collected.</p> <p>Skill Use scientific vocabulary to report and answer questions about their findings based</p>	<p>Knowledge The results are information, such as measurements or observations, that have been collected during an investigation. A conclusion is an explanation of what has been discovered using evidence collected. Skill Use relevant scientific vocabulary to report on their findings, answer questions and justify their conclusions based on evidence collected, identify improvements, further questions and predictions.</p> <p>Knowledge The results are information, such as measurements or observations, that have been collected during an investigation. A conclusion is an explanation of what has been discovered using evidence collected. Skill Use relevant scientific vocabulary to report on their findings, answer questions and justify their conclusions based on evidence collected, identify improvements, further questions and predictions.</p> <p>Knowledge The results are information, such as measurements or observations, that have been collected during an investigation. A conclusion is an explanation of what has been discovered using evidence collected. Skill Use relevant scientific vocabulary to report on their findings, answer questions and justify their conclusions based on evidence collected, identify improvements, further questions and predictions.</p> <p>Knowledge Data can be recorded and displayed in different ways, including tables, bar and line charts, classification keys and labelled diagrams.</p> <p>Skill Gather and record data and results of increasing complexity, selecting from a range of methods (scientific diagrams, labels, classification keys, tables, graphs and models).</p> <p>Knowledge Specialised equipment is used to take measurements in standard units. Examples include data loggers plus sensors, such as light (lux), sound (dB) and temperature (°C); timers (seconds, minutes and hours); thermometers (°C), and measuring tapes (millimetres, centimetres, metres).</p> <p>Knowledge An observation involves looking closely at objects, materials and living things. Accurate observations can be made repeatedly or at regular intervals to identify changes over time. Skill Within a group, decide which observations to make, when and for how long, and make systematic and careful observations, using them to make comparisons, identify changes, classify and make links between cause and effect.</p> <p>Knowledge A method is a set of clear instructions for how to carry out a scientific investigation. A prediction is a statement about what might happen in an investigation based on some prior knowledge or understanding</p> <p>Skill Plan and carry out a range of enquiries, including writing methods, identifying variables and making predictions based on prior knowledge and understanding.</p> <p>Knowledge Questions can help us find out about the world and can be answered using a range of scientific enquiries.</p>	<p>Knowledge The results are information, such as measurements or observations, that have been collected during an investigation. A conclusion is an explanation of what has been discovered, using correct, precise terminology and collected evidence.</p> <p>Skill Report on and validate their findings, answer questions and justify their methods, opinions and conclusions, and use their results to suggest improvements to their methodology, separate facts from opinions, pose further questions and make predictions for what they might observe.</p> <p>Knowledge The results are information, such as measurements or observations, that have been collected during an investigation. A conclusion is an explanation of what has been discovered, using correct, precise terminology and collected evidence.</p> <p>Skill Report on and validate their findings, answer questions and justify their methods, opinions and conclusions, and use their results to suggest improvements to their methodology, separate facts from opinions, pose further questions and make predictions for what they might observe.</p> <p>Knowledge The results are information, such as measurements or observations, that have been collected during an investigation. A conclusion is an explanation of what has been discovered, using correct, precise terminology and collected evidence.</p> <p>Skill Report on and validate their findings, answer questions and justify their methods, opinions and conclusions, and use their results to suggest improvements to their methodology, separate facts from opinions, pose further questions and make predictions for what they might observe.</p> <p>Knowledge Data can be recorded and displayed in different ways, including tables, bar and line charts, scatter graphs, classification keys and labelled diagrams. Skill Choose an appropriate approach to recording accurate results, including scientific diagrams, labels, timelines, classification keys, tables, models and graphs (bar, line and scatter), linking to mathematical knowledge.</p> <p>Knowledge Specialised equipment is used to take accurate measurements in standard units. Examples include data loggers plus sensors, such as light (lux), sound (dB) and temperature (°C); timers (seconds, minutes and hours); thermometers (°C) and measuring tapes (millimetres, centimetres, metres).</p> <p>Skill Take accurate, precise and repeated measurements in standard units, using a range of chosen equipment.</p> <p>Knowledge An observation involves looking closely at objects, materials and living things. Accurate observations can be made repeatedly or at regular intervals to identify changes over time, identify processes and make comparisons.</p> <p>Skill Independently decide which observations to make, when and for how long and make systematic and careful observations, using them to make comparisons, identify changes, classify and make links between cause and effect.</p>

			<p>Knowledge An observation involves looking closely at objects, materials and living things, which can be compared and grouped according to their features.</p> <p>Skill Make increasingly careful observations, identifying similarities, differences and changes and making simple connections.</p> <p>Knowledge Results are information that has been discovered as part of an investigation. A conclusion is the answer to a question that uses the evidence collected.</p> <p>Skill Use suitable vocabulary to talk or write about what they have done, what the purpose was and, with help, draw a simple conclusion based on evidence collected, beginning to identify next steps or improvements.</p>	<p>on evidence collected, draw simple conclusions and identify next steps, improvements and further questions.</p> <p>Knowledge An observation involves looking closely at objects, materials and living things. Observations can be made regularly to identify changes over time. Skill Begin to choose which observations to make and for how long and make systematic, careful observations and comparisons, identifying changes and connections.</p> <p>Knowledge Results are information, such as data or observations, that have been found out from an investigation. A conclusion is the answer to a question that uses the evidence collected.</p> <p>Skill Use scientific vocabulary to report and answer questions about their findings based on evidence collected, draw simple conclusions and identify next steps, improvements and further questions.</p>	<p>Skill Ask a wide range of relevant scientific questions that broaden their understanding of the world around them and identify how they can answer them.</p>	<p>Knowledge A method is a set of clear instructions for how to carry out a scientific investigation, including what equipment to use and observations to make. A variable is something that can be changed during a fair test. A prediction is a statement about what might happen in an investigation based on some prior knowledge or understanding.</p> <p>Skill Plan and carry out a range of enquiries, including writing methods, identifying and controlling variables, deciding on equipment and data to collect and making predictions based on prior knowledge and understanding</p> <p>Knowledge Questions can help us find out about the world and can be answered using a range of scientific enquiries, including fair tests, research and observation.</p> <p>Skill Ask and answer deeper and broader scientific questions about the local and wider world that build on and extend their own and others' experiences and knowledge.</p>
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Knowledge						
Plants						
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
<p>Reception – Understanding of the World</p> <ul style="list-style-type: none"> Explore the natural world around them. Describe what they see, hear and feel while they are outside. Recognise some environments that are different to the one in which they live. Understand the effect of changing seasons on the natural world around them. <p>ELG: Understanding of the World – The Natural World</p> <ul style="list-style-type: none"> Explore the natural world around them, making observations and drawing pictures of animals and plants. Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. 	<p>Knowledge The basic plant parts include root, stem, leaf, flower, petal, fruit, seed and bulb. Trees have a woody stem called a trunk.</p> <p>Skill Label and describe the basic structure of a variety of common plants.</p>	<p>Knowledge Plants need water, light and a suitable temperature to grow and stay healthy. Without any one of these things, they will die.</p> <p>Skill Describe how plants need water, light and a suitable temperature to grow and stay healthy.</p> <p>Knowledge Plants grow from seeds and bulbs. Seeds and bulbs need nutrients from soil, water and warmth to start growing (germinate). As the plant grows bigger, it develops leaves and flowers. Skill Observe and describe how seeds and bulbs change over time as they grow into mature plants.</p> <p>Knowledge Plants are living things. Common plants include the daisy, daffodil and grass. Trees are large, woody plants and are either evergreen or deciduous. Trees that lose their leaves in the autumn are called deciduous trees. Examples include oak, beech and rowan. Trees that keep their leaves all year round are called evergreen trees. Examples include holly and pine.</p> <p>Skill Identify, compare, group and sort a variety of common wild and garden plants, including deciduous and evergreen trees, based on observable features.</p> <ul style="list-style-type: none"> 	<p>Knowledge The plant's roots anchor the plant in the ground and transport water and minerals from the ground to the plant. The stem (or trunk) support the plant above the ground. The leaves collect energy from the Sun and make food for the plant. Flowers make seeds to produce new plants.</p> <p>Skill: Name and describe the functions of the different parts of flowering plants (roots, stem, leaves and flowers). Knowledge Water is transported in plants from the roots, through the stem and to the leaves, through tiny tubes called xylem.</p> <p>Skill Investigate how water is transported within plants.</p> <p>Knowledge Flowers are important in the life cycle of flowering plants. The stages of a plant's life cycle include germination, flower production, pollination, fertilisation, seed formation and seed dispersal. Insects and the wind can transfer pollen from one plant to another (pollination). Animals, wind, water and explosions can disperse seeds away from the parent plant (seed dispersal).</p> <p>Skill Draw and label the life cycle of a flowering plant.</p> <p>Knowledge Plants need air, light, water, minerals from the soil and room to grow, in order to survive. Different plants have different needs depending on their habitat. Examples include cacti, which need less water than is typical, and ferns, which can grow in lower light levels.</p> <p>Skill Describe the requirements of plants for life and growth (air, light, water, nutrients and room to grow) and how they vary from plant to plant.</p> <p>Rocks Knowledge Soils are made from tiny pieces of eroded rock, air and organic matter. There are a variety of naturally occurring soils, including clay, sand and silt. Different areas have different soil types.</p> <p>Skill Investigate soils from the local environment, making comparisons and identifying features.</p>		<p>Living things and their habitats Knowledge Flowering plants reproduce sexually. The flower is essential for sexual reproduction. Other plants reproduce asexually. Bulbs, corms and rhizomes are some parts used in asexual reproduction in plants.</p> <p>Skill Group and sort plants by how they reproduce.</p> <p>Knowledge Parts of a flower include the stamen, filament, anther, pollen, carpel, stigma, style, ovary, ovule and sepal. Pollination is when the male part of a plant (pollen) is carried, by wind, insects or other animals, to the female part of the plant (carpel). The pollen travels to the ovary, where it fertilises the ovules (eggs). Seeds are then produced, which disperse far away from the parent plant and grow new plants.</p> <p>Skill Label and draw the parts of a flower involved in sexual reproduction in plants (stamen, filament, anther, pollen, carpel, stigma, style, ovary, ovule and sepal). Knowledge Reproduction is the process of producing offspring and is essential for the continued survival of a species. There are two types of reproduction: sexual and asexual. Sexual reproduction involves two parents (one female and one male) and produces offspring that are different from the parents. Asexual reproduction involves one parent and produces offspring that is identical to the parent.</p> <p>Skill Describe the life process of reproduction in some plants and animals.</p>	<p>Living things and their habitats Knowledge Classification keys help us identify living things based on their physical characteristics.</p> <p>Skill Use and construct classification systems to identify animals and plants from a range of habitats.</p> <p>Knowledge Scientists classify living organisms into broad groups according to their characteristics. Vertebrates are an example of a classification group. There are a number of ranks, or levels, within the biological classification system. The first rank is called a kingdom, the second a phylum, then class, order, family, genus and species. Skill Classify living things, including microorganisms, animals and plants, into groups according to common observable characteristics and based on similarities and differences.</p> <p>Knowledge Living things are classified into groups, according to common observable characteristics and based on similarities and differences.</p> <p>Skill Research unfamiliar animals and plants from a range of habitats, deciding upon and explaining where they belong in the classification system.</p>

Seasonal Changes						
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
<p>Reception – Understanding of the World</p> <ul style="list-style-type: none"> Understand the effect of changing seasons on the natural world around them. <p>ELG: Understanding of the World – The Natural World</p> <ul style="list-style-type: none"> Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. 	<p>Knowledge Day length (the number of daylight hours) is longer in the summer months and shorter in the winter months.</p> <p>Skill Observe and describe how day length changes across the year.</p> <p>Knowledge Different types of weather include sunshine, rain, hail, wind, snow, fog, lightning, storm and cloud. The weather can change daily and some weather types are more common in certain seasons, such as snow in winter.</p> <p>Skill Observe and describe different types of weather.</p> <p>Knowledge There are four seasons: spring, summer, autumn and winter. Certain events and weather patterns happen in different seasons.</p> <p>Skill Observe changes across the four seasons.</p>	<p>Plants Knowledge Plants are living things. Common plants include the daisy, daffodil and grass. Trees are large, woody plants and are either evergreen or deciduous. Trees that lose their leaves in the autumn are called deciduous trees. Examples include oak, beech and rowan. Trees that keep their leaves all year round are called evergreen trees. Examples include holly and pine.</p>	<p>Plants Knowledge Flowers are important in the life cycle of flowering plants. The stages of a plant's life cycle include germination, flower production, pollination, fertilisation, seed formation and seed dispersal. Insects and the wind can transfer pollen from one plant to another (pollination). Animals, wind, water and explosions can disperse seeds away from the parent plant (seed dispersal).</p>		<p>Earth and Space Knowledge As Earth orbits the Sun, it also spins on its axis. It takes Earth a day (24 hours) to complete a full spin. During the day, the Sun appears to move through the sky. However, this is due to the Earth rotating and not the Sun moving. Earth rotates to the east or, if viewed from above the North Pole, it rotates anticlockwise, which means the Sun rises in the east and sets in the west. As Earth rotates, different parts of it face the Sun, which brings what we call daytime. The part facing away is in shadow, which is night time.</p> <p>Skill Use the idea of Earth's rotation to explain day and night, and the Sun's apparent movement across the sky.</p>	

Animals including Humans						
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
<p>Reception – Understanding of the World</p> <ul style="list-style-type: none"> Explore the natural world around them. Describe what they see, hear and feel while they are outside. Recognise some environments that are different to the one in which they live. <p>ELG: Understanding of the World – The Natural World</p> <ul style="list-style-type: none"> Explore the natural world around them, making observations and drawing pictures of animals and plants. Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. 	<p>Knowledge The basic body parts are the head, arms, legs, nose, eyes, ears, mouth, hands and feet. The five senses are hearing, sight, smell, taste and touch. Ears are used for hearing, eyes are used to see, the nose is used to smell, the tongue is used to taste and skin gives the sense of touch.</p> <p>Skill Draw and label the main parts of the human body and say which body part is associated with which sense.</p> <p>Knowledge Animals are living things. Animals can be sorted and grouped into six main groups: fish, amphibians, reptiles, birds, invertebrates and mammals.</p> <p>Skill Identify, compare, group and sort a variety of common animals, including fish, amphibians, reptiles, birds, invertebrates and mammals, based on observable features.</p> <p>Knowledge Different animal groups have some common body parts, such as eyes and a mouth, and some different body parts, such as fins or wings.</p> <p>Skill Label and describe the basic structures of a variety of common animals, including fish, amphibians, reptiles, birds and mammals.</p> <p>Knowledge Carnivores eat other animals (meat), herbivores eat plants and omnivores eat other animals and plants.</p> <p>Skill Group and sort a variety of common animals based on the foods they eat.</p>	<p>Knowledge A healthy lifestyle includes exercise, good personal hygiene, good quality sleep and a balanced diet. Risks associated with an unhealthy lifestyle include obesity, tooth decay and mental health problems.</p> <p>Skill Describe the importance of a healthy lifestyle, including exercise, a balanced diet, good quality sleep and personal hygiene.</p> <p>Knowledge Humans need water, food, air and shelter to survive.</p> <p>Skill Describe what humans need to survive.</p> <p>Knowledge Animals need water, food, air and shelter to survive. Their habitat must provide all these things.</p> <p>Skill Explain how animals, including humans, need water, food, air and shelter to survive.</p> <p>Knowledge Human offspring go through different stages as they grow to become adults. These include baby, toddler, child, teenager, adult and elderly.</p> <p>Skill Describe the stages of human development (baby, toddler, child, teenager, adult and elderly).</p>	<p>Knowledge Humans have to get nutrition from what they eat. It is important to have a balanced diet made up of the main food groups, including proteins, carbohydrates, fruit and vegetables, dairy products and alternatives, and fats and spreads. Humans need to stay hydrated by drinking water. Skill Explain the importance and characteristics of a healthy, balanced diet.</p> <p>Knowledge Food chains show what animals eat within a habitat and how energy is passed on over time. All food chains start with a producer, which is typically a green plant. The producer is eaten by a primary consumer (prey), which is eaten by a secondary consumer (prey), which is eaten by a tertiary consumer. All food chains end with a top or apex predator. Changes within a food chain, such as an abundance or lack of one food type, have an impact on the entire food chain.</p> <p>Skill Construct and interpret a variety of food chains and webs to show interdependence and how energy is passed on over time.</p> <p>Knowledge Humans have a skeleton and muscles for movement, support and protecting organs. Major bones in the human body include the skull, ribs, spine, humerus, ulna, radius, pelvis, femur, tibia and fibula. Major muscle groups in the human body include the biceps, triceps, abdominals, trapezius, gluteals, hamstrings, quadriceps, deltoids, gastrocnemius, latissimus dorsi and pectorals. Skill Describe how humans need the skeleton and muscles for support, protection and movement.</p> <p>Knowledge Some animals have skeletons for support, movement and protection. Endoskeletons are those found inside some animals, such as humans, cats and horses. Exoskeletons are those found on the outside of some animals, such as beetles and flies. Some animals have no skeleton, such as slugs and jellyfish.</p> <p>Skill Identify and group animals that have no skeleton, an internal skeleton (endoskeleton) and an external skeleton (exoskeleton).</p> <p>Knowledge Animals cannot make their own food and need to get nutrition from the food they eat. Carnivores get their nutrition from eating other animals. Herbivores get their nutrition from plants. Omnivores get their nutrition from eating a combination of both plants and other animals.</p> <p>Skill Compare and contrast the diets of different animals.</p>	<p>Knowledge There are four different types of teeth: incisors, canines, premolars and molars. Incisors are used for cutting. Canines are used for tearing. Premolars and molars are used for grinding and chewing. Carnivores, herbivores and omnivores have characteristic types of teeth. Herbivores have many large molars for grinding plant material. Carnivores have large canines for killing their prey and tearing meat.</p> <p>Skill Identify the four different types of teeth in humans and other animals, and describe their functions.</p> <p>Knowledge The digestive system is responsible for digesting food and absorbing nutrients and water. The main parts of the digestive system are the mouth, oesophagus, stomach, small intestines, large intestines and rectum. The mouth starts digestion by chewing food and mixing it with saliva. The oesophagus transports the chewed food to the stomach, where it mixes with stomach acid and gets broken down into smaller pieces. In the small intestine, nutrients from the food are absorbed by the body. In the large intestine, water is absorbed by the body. The remaining undigested waste is stored in the rectum before excretion through the anus.</p> <p>Skill Describe the purpose of the digestive system, its main parts and each of their functions.</p> <ul style="list-style-type: none"> 	<p>Knowledge Humans go through characteristic stages as they develop towards old age. These stages include baby, infant, toddler, child, adolescent, young adult, adult and senior citizen. Puberty is the transition between childhood and adulthood.</p> <p>Skill Describe the changes as humans develop from birth to old age.</p>	<p>Knowledge The role of the circulatory system is to transport oxygen, water and nutrients around the body. They are transported in blood and delivered to where they are needed.</p> <p>Skill Explain that the circulatory system in animals transports oxygen, water and nutrients around the body.</p> <p>Knowledge Lifestyle choices can have a positive (exercise and eating healthily) or negative (drugs, smoking and alcohol) impact on the body.</p> <p>Skill Explain the impact of positive and negative lifestyle choices on the body.</p> <p>Knowledge The circulatory system includes the heart, blood vessels and blood. The heart pumps blood through the blood vessels and around the body. There are three types of blood vessel: arteries, veins and capillaries. They each have a different-sized hole (lumen) and walls. The blood carries gases (oxygen and carbon dioxide), water and nutrients to where they are needed. The red blood cells carry oxygen and carbon dioxide around the body. The blood also contains white blood cells, which protect the body from infection.</p> <p>Skill Name and describe the purpose of the circulatory system and the functions of the heart, blood vessels and blood.</p>

Everyday Materials						
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
<p>ELG: Understanding of the World – The Natural World</p> <ul style="list-style-type: none"> Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter 	<p>Knowledge Materials can be grouped according to their properties.</p> <p>Skill Compare and group materials in a variety of ways, such as based on their physical properties; being natural or man-made and being recyclable or non-recyclable.</p> <p>Knowledge Materials have different properties, such as hard or soft; stretchy or stiff; rough or smooth; opaque or transparent; bendy or rigid; waterproof or not waterproof; magnetic or non-magnetic.</p> <p>Skill Investigate and describe the simple physical properties of some everyday materials, such as hard or soft; stretchy or stiff; rough or smooth; opaque or transparent; bendy or rigid; waterproof or not waterproof and magnetic or non-magnetic.</p> <p>Knowledge A material is what an object is made from. Everyday materials include wood, plastic, glass, metal, water, rock, brick, paper and fabric.</p> <p>Skill Identify and name what an object is made from, including wood, plastic, glass, metal, water and rock.</p> <p>Knowledge A material is what an object is made from. Everyday materials include wood, plastic, glass, metal, water, rock, brick, paper and fabric.</p> <p>Skill Identify and name what an object is made from, including wood, plastic, glass, metal, water and rock.</p>	<p>Knowledge Some objects and materials can be changed by squashing, bending, twisting, stretching, heating, cooling, mixing and being left to decay.</p> <p>Skill Describe how some objects and materials can be changed and how these changes can be desirable or undesirable.</p> <p>Knowledge A material's physical properties make it suitable for particular purposes, such as glass for windows and brick for building walls. Many materials are used for more than one purpose, such as metal for cutlery and cars.</p> <p>Skill Compare the suitability of a range of everyday materials for particular uses, including wood, metal, plastic, glass, brick, rock, paper and cardboard.</p>	<p>Electricity Knowledge Electrical conductors allow electricity to flow through them, whereas insulators do not. Common electrical conductors are metals. Common insulators include wood, glass, plastic and rubber.</p> <p>Skill Describe materials as electrical conductors or insulators.</p> <p>Forces and Magnets Knowledge Some materials have magnetic properties. Magnetic materials are attracted to magnets. All magnetic materials are metals but not all metals are magnetic. Iron is a magnetic metal.</p> <p>Skill Compare and group materials based on their magnetic properties.</p> <p>Light Skill Group and sort materials as being reflective or non-reflective.</p>	<p>States of Matter Knowledge Heating or cooling materials can bring about a change of state. This change of state can be reversible or irreversible. The temperature at which materials change state varies depending on the material. Water changes state from solid (ice) ⇌ liquid (water) at 0°C and from liquid (water) ⇌ gas (water vapour) at 100°C. The process of changing from a solid to liquid is called melting. The reverse process of changing from a liquid to a solid is called freezing. The process of changing from a liquid to a gas is called evaporation. The reverse process of changing from a gas to a liquid is called condensation.</p> <p>Skill Observe and explain that some materials change state when they are heated or cooled and measure or research the temperature in degrees Celsius (°C) at which materials change state.</p> <p>Knowledge Materials can be grouped according to whether they are solids, liquids or gases. Solids stay in one place and can be held. Some solids can be squashed, bent, twisted and stretched. Examples of solids include wood, metal, plastic and clay. Liquids move around (flow) easily and are difficult to hold. Liquids take the shape of the container in which they are held. Examples of liquids include water, juice and milk. Gases spread out to fill the available space and cannot be held. Air is a mixture of gases.</p> <p>Skill Group and sort materials into solids, liquids or gases.</p>	<p>Properties and changes of materials Knowledge Materials can be grouped according to their basic physical properties. Properties include hardness, solubility, transparency, conductivity (electrical and thermal) and magnetism.</p> <p>Skill Compare and group everyday materials by their properties, including hardness, solubility, transparency, conductivity (electrical and thermal) and magnetism.</p> <p>Knowledge Some mixtures can be separated by filtering, sieving and evaporating. Sieving can be used to separate large solids from liquids and some solids from other solids. Filtering can be used to separate small solids from liquids. Evaporating can be used to separate dissolved solids from liquids.</p> <p>Skill Separate mixtures by filtering, sieving and evaporating.</p> <p>Knowledge Some materials (solutes) will dissolve in liquid (solvents) to form a solution. The solute can be recovered by evaporating off the solvent by heating.</p> <p>Skill Explain, following observation, that some substances (solutes) will dissolve in liquid (solvents) to form a solution and the solute can be recovered by evaporating off the solvent.</p> <p>Knowledge Reversible changes include heating, cooling, melting, dissolving and evaporating. Irreversible changes include burning, rusting, decaying and chemical reactions.</p> <p>Skill Identify, demonstrate and compare reversible and irreversible changes.</p> <p>Knowledge Reversible changes include heating, cooling, melting, dissolving and evaporating. Irreversible changes include burning, rusting, decaying and chemical reactions.</p> <p>Skill Identify, demonstrate and compare reversible and irreversible changes.</p> <p>Knowledge A material's properties dictate what it can be used for. For example, cooking pans are made from metal, which is a good thermal conductor, allowing heat to quickly transfer from the hob to the contents of the pan.</p> <p>Skill Describe, using evidence from comparative or fair tests, why a material has been chosen for a specific use, including metals, wood and glass.</p>	

Rocks						
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
<p>Reception – Understanding of the World</p> <ul style="list-style-type: none"> Explore the natural world around them. Describe what they see, hear and feel while they are outside. Recognise some environments that are different to the one in which they live. <p>ELG: Understanding of the World – The Natural World</p> <ul style="list-style-type: none"> Explore the natural world around them, making observations and drawing pictures. Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. 	<p>Everyday Materials</p> <p>Knowledge Materials can be grouped according to their properties.</p> <p>Skill Compare and group materials in a variety of ways, such as based on their physical properties; being natural or man-made and being recyclable or non-recyclable.</p> <p>Knowledge Materials have different properties, such as hard or soft; stretchy or stiff; rough or smooth; opaque or transparent; bendy or rigid; waterproof or not waterproof; magnetic or non-magnetic.</p> <p>Knowledge A material is what an object is made from. Everyday materials include wood, plastic, glass, metal, water, rock, brick, paper and fabric.</p> <p>Skill Identify and name what an object is made from, including wood, plastic, glass, metal, water and rock.</p> <p>Knowledge A material is what an object is made from. Everyday materials include wood, plastic, glass, metal, water, rock, brick, paper and fabric.</p> <p>Skill Identify and name what an object is made from, including wood, plastic, glass, metal, water and rock.</p>	<p>Everyday materials</p> <p>Knowledge A material's physical properties make it suitable for particular purposes, such as glass for windows and brick for building walls. Many materials are used for more than one purpose, such as metal for cutlery and cars.</p> <p>Skill Compare the suitability of a range of everyday materials for particular uses, including wood, metal, plastic, glass, brick, rock, paper and cardboard.</p>	<p>Knowledge Fossils form over millions of years and are the remains of a once living organism, preserved as rock. Scientists can use fossils to find out what life on Earth was like in prehistoric times. Fossils form when a living thing dies in a watery environment. The body gets covered by mud and sand and the soft tissues rot away. Over time, the ground hardens to form sedimentary rock and the skeletal or shell remains turn to rock.</p> <p>Skill Describe simply how fossils are formed, using words, pictures or a model.</p> <p>Knowledge There are three different rock types: sedimentary, igneous and metamorphic. Sedimentary rocks form from mud, sand and particles that have been squashed together over a long time to form rock. Examples include sandstone and limestone. Igneous rocks are made from cooled magma or lava. They usually contain visible crystals. Examples include pumice and granite. Metamorphic rocks are formed when existing rocks are heated by the magma under the Earth's crust or squashed by the movement of the Earth's tectonic plates. They are usually very hard. Examples include slate and marble. Skill Compare and group rocks based on their appearance, properties or uses.</p> <p>Knowledge Soils are made from tiny pieces of eroded rock, air and organic matter. There are a variety of naturally occurring soils, including clay, sand and silt. Different areas have different soil types.</p> <p>Skill Investigate soils from the local environment, making comparisons and identifying features.</p>			

Living Things and their Habitats

EYFS	Y1	Y2	Y3	Y4	Y5	Y6
<p>Reception – Understanding of the World</p> <ul style="list-style-type: none"> Explore the natural world around them. Describe what they see, hear and feel while they are outside. Recognise some environments that are different to the one in which they live. Understand the effect of changing seasons on the natural world around them. <p>ELG: Understanding of the World – The Natural World</p> <ul style="list-style-type: none"> Explore the natural world around them, making observations and drawing pictures of animals and plants. Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. Aut 1 	<p>Knowledge Food chains show how living things depend on one another for food. All food chains start with a plant, followed by animals that either eat the plant or other animals.</p> <p>Skill Interpret and construct simple food chains to describe how living things depend on each other as a source of food.</p> <p>Knowledge Living things are those that are alive. Dead things are those that were once living but are no longer. Some things have never been alive.</p> <p>Skill Compare and group things that are living, dead or have never been alive.</p> <p>Knowledge Local habitats include parks, woodland and gardens. Habitats beyond the locality include beaches, rainforests, deserts, oceans and mountains. All living things live in a habitat to which they are suited and it must provide everything they need to survive.</p> <p>Skill Describe a range of local habitats and habitats beyond their locality (beaches, rainforests, deserts, oceans and mountains) And what all provide for the things habitats that live there.</p>	<p>Knowledge A habitat is a place where a living thing lives. A microhabitat is a very small habitat.</p> <p>Skill Identify and name a variety of plants and animals in a range of habitats and microhabitats.</p>	<p>Knowledge Scientists classify living things according to shared characteristics. Animals can be divided into six main groups: mammals, reptiles, amphibians, birds, fish and invertebrates. These groups can be further subdivided. Classification keys are scientific tools that aid the identification of living things.</p> <p>Skill Compare, sort and group living things from a range of environments, in a variety of ways, based on observable features and behaviour.</p> <p>Knowledge Habitats change over time, either due to natural or human influences. Natural influences include extreme or unseasonable weather. Human influences include habitat destruction or pollution. These changes can pose a risk to animals and plants that live in the habitat.</p> <p>Skill Explain how unfamiliar habitats, such as a mountain or ocean, can change over time and what influences these changes.</p> <p>Knowledge Scientists classify living things according to shared characteristics. Animals can be divided into six main groups: mammals, reptiles, amphibians, birds, fish and invertebrates. These groups can be further subdivided. Classification keys are scientific tools that aid the identification of living things.</p> <p>Skill Compare, sort and group living things from a range of environments, in a variety of ways, based on observable features and behaviour.</p>		<p>Knowledge Humans reproduce sexually, which involves two parents (one female and one male) and produces offspring that are different from the parents.</p> <p>Skill Describe the process of human reproduction. Knowledge A life cycle is the series of changes in the life of a living thing and includes these basic stages: birth, growth, reproduction and death. Mammals' life cycles include the stages: embryo, baby, adolescent and adult. Amphibians' life cycles include the stages: egg, larva (tadpole), adolescent and adult. Some insects' (butterflies, beetles and bees) life cycles include the stages: egg, larva, pupa and adult. Birds' life cycles include the stages: egg, baby, adolescent and adult. Skill Compare the life cycles of animals, including a mammal, an amphibian, an insect and a bird.</p> <p>Knowledge Flowering plants reproduce sexually. The flower is essential for sexual reproduction. Other plants reproduce asexually. Bulbs, corms and rhizomes are some parts used in asexual reproduction in plants.</p> <p>Skill Group and sort plants by how they reproduce.</p> <p>Knowledge Parts of a flower include the stamen, filament, anther, pollen, carpel, stigma, style, ovary, ovule and sepal. Pollination is when the male part of a plant (pollen) is carried, by wind, insects or other animals, to the female part of the plant (carpel). The pollen travels to the ovary, where it fertilises the ovules (eggs). Seeds are then produced, which disperse far away from the parent plant and grow new plants.</p> <p>Skill Label and draw the parts of a flower involved in sexual reproduction in plants (stamen, filament, anther, pollen, carpel, stigma, style, ovary, ovule and sepal).</p> <p>Knowledge Reproduction is the process of producing offspring and is essential for the continued survival of a species. There are two types of reproduction: sexual and asexual. Sexual reproduction involves two parents (one female and one male) and produces offspring that are different from the parents. Asexual reproduction involves one parent and produces offspring that is identical to the parent.</p> <p>Skill Describe the life process of reproduction in some plants and animals.</p>	<p>Knowledge Classification keys help us identify living things based on their physical characteristics.</p> <p>Skill Use and construct classification systems to identify animals and plants from a range of habitats.</p> <p>Knowledge Scientists classify living organisms into broad groups according to their characteristics. Vertebrates are an example of a classification group. There are a number of ranks, or levels, within the biological classification system. The first rank is called a kingdom, the second a phylum, then class, order, family, genus and species. Skill Classify living things, including microorganisms, animals and plants, into groups according to common observable characteristics and based on similarities and differences.</p> <p>Knowledge Living things are classified into groups, according to common observable characteristics and based on similarities and differences.</p> <p>Skill Research unfamiliar animals and plants from a range of habitats, deciding upon and explaining where they belong in the classification system.</p>

Light						
Reception – Understanding of the World <ul style="list-style-type: none"> Explore the natural world around them. Describe what they see, hear and feel while they are outside. 			Knowledge Dark is the absence of light and we need light to be able to see. Skill Describe the differences between dark and light and how we need light to be able to see. Knowledge Light can be reflected from different surfaces. Some surfaces are poor reflectors, such as some fabrics, while other surfaces are good reflectors, such as mirrors. Skill Group and sort materials as being reflective or non-reflective. Knowledge Light from the Sun is damaging for vision and the skin. Protection from the Sun includes sun cream, sun hats, sunglasses and staying indoors or in the shade. Skill Explain why light from the Sun can be dangerous. Knowledge A shadow is formed when light from a light source, such as the Sun, is blocked by an opaque object. Transparent objects allow light to pass through them and do not create shadows. Skill Explain, using words or diagrams, how shadows are formed when a light source is blocked by an opaque object. Knowledge Shadows change shape and size when the light source moves. For example, when the light source is high above the object, the shadow is short and when the light source is low down, the object's shadow is long. Skill Find patterns in the way shadows change during the day.		Earth and Space Knowledge As Earth orbits the Sun, it also spins on its axis. It takes Earth a day (24 hours) to complete a full spin. During the day, the Sun appears to move through the sky. However, this is due to the Earth rotating and not the Sun moving. Earth rotates to the east or, if viewed from above the North Pole, it rotates anticlockwise, which means the Sun rises in the east and sets in the west. As Earth rotates, different parts of it face the Sun, which brings what we call daytime. The part facing away is in shadow, which is night time. Skill Use the idea of Earth's rotation to explain day and night, and the Sun's apparent movement across the sky.	Knowledge A shadow appears when an object blocks the passage of light. Apart from some distortion or fuzziness at the edges, shadows are the same shape as the object. The distortion or fuzziness depends on the position or type of light source. Skill Explain, using words, diagrams or a model, why shadows have the same shape as the objects that cast them and how shadows can be changed. Knowledge A shadow appears when an object blocks the passage of light. Apart from some distortion or fuzziness at the edges, shadows are the same shape as the object. The distortion or fuzziness depends on the position or type of light source. Skill Explain, using words, diagrams or a model, why shadows have the same shape as the objects that cast them and how shadows can be changed. Knowledge Light sources give out light. They can be natural or artificial. When light hits an object, it is absorbed, scattered, reflected or a combination of all three. Light from a source or reflected light enter the eye. Vertebrates, such as mammals, birds and reptiles, have a cornea and lens that refracts light that enters the eye and focuses it on the nerve tissue at the back of the eye, which is called the retina. Once light reaches the retina, it is transmitted to the brain via the optic nerve. Skill Explain that, due to how light travels, we can see things because they give out or reflect light into the eye. Knowledge Light travels in straight lines. Skill Identify that light travels in straight lines.

Forces and Magnets						
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
<p>Floating and sinking experiments</p> <p>Forces Provision: riding bikes, climbing, sliding, building with big blocks, balancing, water and sand play, tubes and pipes, playing with vehicles, building area</p>			<p>Knowledge Friction is a force between two surfaces as they move over each other. Friction slows down a moving object. Smooth surfaces usually generate less friction than rough surfaces.</p> <p>Skill Compare how objects move over surfaces made from different materials.</p> <p>Knowledge Magnets have two poles (north and south). Opposite poles (north and south) attract each other, while like poles (north and north, or south and south) repel each other.</p> <p>Skill Investigate and compare a range of magnets (bar, horseshoe and floating) and explain that magnets have two poles (north and south) and that opposite poles attract each other, while like poles repel each other.</p> <p>Knowledge Magnets have two poles (north and south). Opposite poles (north and south) attract each other, while like poles (north and north, or south and south) repel each other. Skill Investigate and compare a range of magnets (bar, horseshoe and floating) and explain that magnets have two poles (north and south) and that opposite poles attract each other, while like poles repel each other.</p> <p>Knowledge Some materials have magnetic properties. Magnetic materials are attracted to magnets. All magnetic materials are metals but not all metals are magnetic. Iron is a magnetic metal.</p> <p>Skill Compare and group materials based on their magnetic properties.</p> <p>Knowledge Some materials have magnetic properties. Magnetic materials are attracted to magnets. All magnetic materials are metals but not all metals are magnetic. Iron is a magnetic metal.</p> <p>Skill Compare and group materials based on their magnetic properties.</p> <p>Knowledge An object will not move unless a pushing or pulling force is applied. Some forces require direct contact, whereas other forces can act at a distance, such as magnetic force.</p> <p>Skill Explain that an object will not move unless a push or pull force is applied, describing forces in action and whether the force requires direct contact or whether the force can act at a distance (magnetic force).</p>		<p>Knowledge Mechanisms, such as levers, pulleys and gears, give us a mechanical advantage. A mechanical advantage is a measurement of how much a simple machine multiplies the force that we put in. The bigger the mechanical advantage, the less force we need to apply.</p> <p>Skill Describe and demonstrate how simple levers, gears and pulleys assist the movement of objects.</p> <p>Knowledge Friction, air resistance and water resistance are forces that oppose motion and slow down moving objects. These forces can be useful, such as bike brakes and parachutes, but sometimes we need to minimise their effects, such as streamlining boats and planes to move through water or air more easily, and using lubricants and ball bearings between two surfaces to reduce friction.</p> <p>Skill Compare and describe, using a range of toys, models and natural objects, the effects of water resistance, air resistance and friction.</p> <p>Knowledge Gravity is a force of attraction. Anything with a mass can exert a gravitational pull on another object. The Earth's large mass exerts a gravitational pull on all objects on Earth, making dropped objects fall to the ground.</p> <p>Skill Explain that objects fall to Earth due to the force of gravity.</p>	

Sound						
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
				<p>Knowledge When an instrument is played, the air around or inside it vibrates. These vibrations travel as a sound wave. Sound waves travel through a medium, such as air or water, to the ear.</p> <p>Skill Explain how sounds are made and heard using diagrams, models, written methods or verbally.</p> <p>Knowledge Sounds are louder closer to the sound source and fainter as the distance from the sound source increases.</p> <p>Skill Compare how the volume of a sound changes at different distances from the source.</p> <p>Knowledge Volume is how loud or quiet a sound is. The harder an instrument is hit, plucked or blown, the stronger the vibrations and the louder the sound.</p> <p>Skill Compare and find patterns in the volume of a sound, using a range of equipment, such as musical instruments.</p> <p>Knowledge Pitch is how high or low a sound is. Parts of an instrument that are shorter, tighter or thinner produce high-pitched sounds. Parts of an instrument that are longer, looser or fatter produce low-pitched sounds.</p> <p>Skill Compare and find patterns in the pitch of a sound, using a range of equipment, such as musical instruments.</p> <p>Knowledge When an instrument is played, the air around or inside it vibrates. These vibrations travel as a sound wave. Sound waves travel through a medium, such as air or water, to the ear.</p> <p>Skill Explain how sounds are made and heard using diagrams, models, written methods or verbally.</p> <ul style="list-style-type: none"> • 		

Electricity						
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
			<p>Knowledge Electrical conductors allow electricity to flow through them, whereas insulators do not. Common electrical conductors are metals. Common insulators include wood, glass, plastic and rubber.</p> <p>Skill Describe materials as electrical conductors or insulators.</p> <p>Knowledge Electrical components include cells, wires, lamps, motors, switches and buzzers. Switches open and close a circuit and provide control.</p> <p>Skill Construct operational simple series circuits using a range of components and switches for control.</p> <p>Knowledge A series circuit is a simple loop with only one path for the electricity to flow. A series circuit must be a complete loop to work and have a source of power from a battery or cell.</p> <p>Skill Predict and describe whether a circuit will work based on whether or not the circuit is a complete loop and has a battery or cell.</p> <p>Knowledge Electrical components include cells, wires, lamps, motors, switches and buzzers. Switches open and close a circuit and provide control.</p> <p>Skill Construct operational simple series circuits using a range of components and switches for control.</p> <p>Knowledge Electricity is a type of energy. It is used to power many everyday items, such as kettles, computers and televisions. Electricity can also come from batteries. Batteries eventually run out of power and need to be recycled or recharged. Batteries power devices that can be carried around, such as mobile phones and torches.</p> <p>Skill Compare common household equipment and appliances that are and are not powered by electricity.</p>		<p>Knowledge Voltage is measured in volts (V) and is a measure of the difference in electrical energy between two parts of a circuit. The bigger the voltage, the more electrons are pushed through the circuit. The more voltage flowing through a lamp, buzzer or motor, the brighter the lamp, the louder the buzzer and the faster the motor.</p> <p>Skill Explain how the brightness of a lamp or volume of a buzzer is affected by the number and voltage of cells used in a circuit.</p> <p>Knowledge There are recognised symbols for different components of circuits.</p> <p>Skill Create circuits using a range of components and record diagrammatically using the recognised symbols for electrical components.</p> <p>Knowledge A circuit needs a power source, such as a battery or cell, with wires connected to both the positive and negative terminals. Other components include lamps, buzzers or motors, which an electric current passes through and affects a response, such as lighting a lamp or turning a motor. When a switch is open, it creates a gap and the current cannot travel around the circuit. When a switch is closed, it completes the circuit and allows a current to flow all the way around it.</p> <p>Skill Compare and give reasons for variations in how components in electrical circuits function (brightness of lamps; volume of buzzers and function of on or off switches).</p>	

Properties and Changes of materials

EYFS	Y1	Y2	Y3	Y4	Y5	Y6
<p>ELG: Understanding of the World – The Natural World</p> <ul style="list-style-type: none"> Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter 	<p>Everyday Materials Knowledge Materials can be grouped according to their properties.</p> <p>Skill Compare and group materials in a variety of ways, such as based on their physical properties; being natural or man-made and being recyclable or non-recyclable.</p> <p>Knowledge Materials have different properties, such as hard or soft; stretchy or stiff; rough or smooth; opaque or transparent; bendy or rigid; waterproof or not waterproof; magnetic or non-magnetic.</p> <p>Skill Investigate and describe the simple physical properties of some everyday materials, such as hard or soft; stretchy or stiff; rough or smooth; opaque or transparent; bendy or rigid; waterproof or not waterproof and magnetic or non-magnetic.</p> <p>Knowledge A material is what an object is made from. Everyday materials include wood, plastic, glass, metal, water, rock, brick, paper and fabric.</p> <p>Skill Identify and name what an object is made from, including wood, plastic, glass, metal, water and rock.</p> <p>Knowledge A material is what an object is made from. Everyday materials include wood, plastic, glass, metal, water, rock, brick, paper and fabric.</p> <p>Skill Identify and name what an object is made from, including wood, plastic, glass, metal, water and rock.</p>	<p>Everyday Materials Knowledge Some objects and materials can be changed by squashing, bending, twisting, stretching, heating, cooling, mixing and being left to decay.</p> <p>Skill Describe how some objects and materials can be changed and how these changes can be desirable or undesirable.</p> <p>Knowledge A material's physical properties make it suitable for particular purposes, such as glass for windows and brick for building walls. Many materials are used for more than one purpose, such as metal for cutlery and cars.</p> <p>Skill Compare the suitability of a range of everyday materials for particular uses, including wood, metal, plastic, glass, brick, rock, paper and cardboard.</p>	<p>Electricity Knowledge Electrical conductors allow electricity to flow through them, whereas insulators do not. Common electrical conductors are metals. Common insulators include wood, glass, plastic and rubber.</p> <p>Skill Describe materials as electrical conductors or insulators.</p> <p>Forces and Magnets Knowledge Some materials have magnetic properties. Magnetic materials are attracted to magnets. All magnetic materials are metals but not all metals are magnetic. Iron is a magnetic metal.</p> <p>Skill Compare and group materials based on their magnetic properties.</p> <p>Light Skill Group and sort materials as being reflective or non-reflective.</p>	<p>States of Matter Knowledge Heating or cooling materials can bring about a change of state. This change of state can be reversible or irreversible. The temperature at which materials change state varies depending on the material. Water changes state from solid (ice) ⇌ liquid (water) at 0°C and from liquid (water) ⇌ gas (water vapour) at 100°C. The process of changing from a solid to liquid is called melting. The reverse process of changing from a liquid to a solid is called freezing. The process of changing from a liquid to a gas is called evaporation. The reverse process of changing from a gas to a liquid is called condensation.</p> <p>Skill Observe and explain that some materials change state when they are heated or cooled and measure or research the temperature in degrees Celsius (°C) at which materials change state.</p> <p>Knowledge Materials can be grouped according to whether they are solids, liquids or gases. Solids stay in one place and can be held. Some solids can be squashed, bent, twisted and stretched. Examples of solids include wood, metal, plastic and clay. Liquids move around (flow) easily and are difficult to hold. Liquids take the shape of the container in which they are held. Examples of liquids include water, juice and milk. Gases spread out to fill the available space and cannot be held. Air is a mixture of gases.</p> <p>Skill Group and sort materials into solids, liquids or gases.</p>	<p>Knowledge Materials can be grouped according to their basic physical properties. Properties include hardness, solubility, transparency, conductivity (electrical and thermal) and magnetism.</p> <p>Skill Compare and group everyday materials by their properties, including hardness, solubility, transparency, conductivity (electrical and thermal) and magnetism.</p> <p>Knowledge Some mixtures can be separated by filtering, sieving and evaporating. Sieving can be used to separate large solids from liquids and some solids from other solids. Filtering can be used to separate small solids from liquids. Evaporating can be used to separate dissolved solids from liquids.</p> <p>Skill Separate mixtures by filtering, sieving and evaporating.</p> <p>Knowledge Some materials (solutes) will dissolve in liquid (solvents) to form a solution. The solute can be recovered by evaporating off the solvent by heating.</p> <p>Skill Explain, following observation, that some substances (solutes) will dissolve in liquid (solvents) to form a solution and the solute can be recovered by evaporating off the solvent.</p> <p>Knowledge Reversible changes include heating, cooling, melting, dissolving and evaporating. Irreversible changes include burning, rusting, decaying and chemical reactions.</p> <p>Skill Identify, demonstrate and compare reversible and irreversible changes.</p> <p>Knowledge Reversible changes include heating, cooling, melting, dissolving and evaporating. Irreversible changes include burning, rusting, decaying and chemical reactions.</p> <p>Skill Identify, demonstrate and compare reversible and irreversible changes.</p> <p>Knowledge A material's properties dictate what it can be used for. For example, cooking pans are made from metal, which is a good thermal conductor, allowing heat to quickly transfer from the hob to the contents of the pan.</p> <p>Skill Describe, using evidence from comparative or fair tests, why a material has been chosen for a specific use, including metals, wood and glass.</p>	

Evolution and inheritance						
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
<p>Reception – Understanding of the World</p> <ul style="list-style-type: none"> Explore the natural world around them. Describe what they see, hear and feel while they are outside. Recognise some environments that are different to the one in which they live. Understand the effect of changing seasons on the natural world around them. <p>ELG: Understanding of the World – The Natural World</p> <ul style="list-style-type: none"> Explore the natural world around them, making observations and drawing pictures of animals and plants. Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. <p>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>	<p>Living things and their habitats</p> <p>Knowledge Food chains show how living things depend on one another for food. All food chains start with a plant, followed by animals that either eat the plant or other animals.</p> <p>Skill Interpret and construct simple food chains to describe how living things depend on each other as a source of food.</p> <p>Knowledge Living things are those that are alive. Dead things are those that were once living but are no longer. Some things have never been alive.</p> <p>Skill Compare and group things that are living, dead or have never been alive.</p> <p>Knowledge Local habitats include parks, woodland and gardens. Habitats beyond the locality include beaches, rainforests, deserts, oceans and mountains. All living things live in a habitat to which they are suited and it must provide everything they need to survive.</p> <p>Skill Describe a range of local habitats and habitats beyond their locality (beaches, rainforests, deserts, oceans and mountains) And what all provide for the things that live there.</p>	<p>Living things and their habitats</p> <p>Knowledge A habitat is a place where a living thing lives. A microhabitat is a very small habitat.</p> <p>Skill Identify and name a variety of plants and animals in a range of habitats and microhabitats.</p>	<p>Rocks</p> <p>Knowledge Fossils form over millions of years and are the remains of a once living organism, preserved as rock. Scientists can use fossils to find out what life on Earth was like in prehistoric times. Fossils form when a living thing dies in a watery environment. The body gets covered by mud and sand and the soft tissues rot away. Over time, the ground hardens to form sedimentary rock and the skeletal or shell remains turn to rock.</p> <p>Skill Describe simply how fossils are formed, using words, pictures or a model.</p> <p>Knowledge There are three different rock types: sedimentary, igneous and metamorphic. Sedimentary rocks form from mud, sand and particles that have been squashed together over a long time to form rock. Examples include sandstone and limestone. Igneous rocks are made from cooled magma or lava. They usually contain visible crystals. Examples include pumice and granite. Metamorphic rocks are formed when existing rocks are heated by the magma under the Earth's crust or squashed by the movement of the Earth's tectonic plates. They are usually very hard. Examples include slate and marble. Skill Compare and group rocks based on their appearance, properties or uses.</p> <p>Knowledge Soils are made from tiny pieces of eroded rock, air and organic matter. There are a variety of naturally occurring soils, including clay, sand and silt. Different areas have different soil types.</p> <p>Skill Investigate soils from the local environment, making comparisons and identifying features.</p> <p>Living things and their habitats</p> <p>Knowledge Scientists classify living things according to shared characteristics. Animals can be divided into six main groups: mammals, reptiles, amphibians, birds, fish and invertebrates. These groups can be further subdivided. Classification keys are scientific tools that aid the identification of living things.</p> <p>Skill Compare, sort and group living things from a range of environments, in a variety of ways, based on observable features and behaviour.</p> <p>Knowledge Habitats change over time, either due to natural or human influences. Natural influences include extreme or unseasonable weather. Human influences include habitat destruction or pollution. These changes can pose a risk to animals and plants that live in the habitat.</p> <p>Skill Explain how unfamiliar habitats, such as a mountain or ocean, can change over time and what influences these changes.</p> <p>Knowledge Scientists classify living things according to shared characteristics. Animals can be divided into six main groups: mammals, reptiles, amphibians, birds, fish and invertebrates. These groups can be further subdivided. Classification keys are scientific tools that aid the identification of living things.</p> <p>Skill</p>		<p>Knowledge Humans reproduce sexually, which involves two parents (one female and one male) and produces offspring that are different from the parents.</p> <p>Skill Describe the process of human reproduction. Knowledge A life cycle is the series of changes in the life of a living thing and includes these basic stages: birth, growth, reproduction and death. Mammals' life cycles include the stages: embryo, baby, adolescent and adult. Amphibians' life cycles include the stages: egg, larva (tadpole), adolescent and adult. Some insects' (butterflies, beetles and bees) life cycles include the stages: egg, larva, pupa and adult. Birds' life cycles include the stages: egg, baby, adolescent and adult. Skill Compare the life cycles of animals, including a mammal, an amphibian, an insect and a bird.</p> <p>Knowledge Flowering plants reproduce sexually. The flower is essential for sexual reproduction. Other plants reproduce asexually. Bulbs, corms and rhizomes are some parts used in asexual reproduction in plants.</p> <p>Skill Group and sort plants by how they reproduce.</p> <p>Knowledge Parts of a flower include the stamen, filament, anther, pollen, carpel, stigma, style, ovary, ovule and sepal. Pollination is when the male part of a plant (pollen) is carried, by wind, insects or other animals, to the female part of the plant (carpel). The pollen travels to the ovary, where it fertilises the ovules (eggs). Seeds are then produced, which disperse far away from the parent plant and grow new plants.</p> <p>Skill Label and draw the parts of a flower involved in sexual reproduction in plants (stamen, filament, anther, pollen, carpel, stigma, style, ovary, ovule and sepal). Knowledge Reproduction is the process of producing offspring and is essential for the continued survival of a species. There are two types of reproduction: sexual and asexual. Sexual reproduction involves two parents (one female and one male) and produces offspring that are different from the parents. Asexual reproduction involves one parent and produces offspring that is identical to the parent.</p> <p>Skill Describe the life process of reproduction in some plants and animals.</p> <p>Y5 Allotment</p>	<p>Knowledge Scientists compare fossilised remains from the past to living species that exist today to hypothesise how living things have evolved over time. Humans and apes share a common ancestry and evidence for this comes from fossil discoveries and genetic comparison.</p> <p>Skill Explain that living things have changed over time, using specific examples and evidence. Skill Describe some of the significant changes that have happened on Earth and the evidence, such as fossils, that support this</p> <p>Knowledge Animals that sexually reproduce generate new offspring of the same kind by combining the genetic material of two individuals. Each offspring inherits two of every gene, one from the female parent and one from the male parent.</p> <p>Skill Identify that living things produce offspring of the same kind, although the offspring are not identical to either parent.</p> <p>Knowledge Animals and plants can be bred to produce offspring with specific and desired characteristics. This is called selective breeding. Examples include cows that produce large quantities of milk or crops that are disease-resistant.</p> <p>Skill Describe how animals and plants can be bred to produce offspring with specific and desired characteristics (selective breeding).</p> <p>Knowledge An adaptation is a physical or behavioural trait that allows a living thing to survive and fill an ecological niche. Adaptations evolve by natural selection. Favourable traits help an organism survive and pass on their genes to subsequent generations.</p> <p>Skill Identify how animals and plants are adapted to suit their environment, such as giraffes having long necks for feeding, and that adaptations may lead to evolution.</p> <p>Living things and their habitats</p> <p>Knowledge Classification keys help us identify living things based on their physical characteristics.</p> <p>Skill Use and construct classification systems to identify animals and plants from a range of habitats.</p> <p>Knowledge Scientists classify living organisms into broad groups according to their characteristics. Vertebrates are an example of a classification group. There are a number of ranks, or levels, within the biological classification system. The first rank is called a kingdom, the second a phylum, then class, order, family, genus and species. Skill Classify living things, including microorganisms, animals and plants, into groups according to common observable characteristics and based on similarities and differences.</p> <p>Knowledge Living things are classified into groups, according to common observable characteristics and based on similarities and differences.</p>

			Compare, sort and group living things from a range of environments, in a variety of ways, based on observable features and behaviour.			Skill Research unfamiliar animals and plants from a range of habitats, deciding upon and explaining where they belong in the classification system.
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Earth and Space						
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
<p>Reception – Understanding of the World</p> <ul style="list-style-type: none"> Understand the effect of changing seasons on the natural world around them. <p>ELG: Understanding of the World – The Natural World</p> <ul style="list-style-type: none"> Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. 	<p>Seasonal Changes</p> <p>Knowledge Day length (the number of daylight hours) is longer in the summer months and shorter in the winter months.</p> <p>Skill Observe and describe how day length changes across the year.</p> <p>Knowledge Different types of weather include sunshine, rain, hail, wind, snow, fog, lightning, storm and cloud. The weather can change daily and some weather types are more common in certain seasons, such as snow in winter.</p> <p>Skill Observe and describe different types of weather.</p> <p>Knowledge There are four seasons: spring, summer, autumn and winter. Certain events and weather patterns happen in different seasons.</p> <p>Skill Observe changes across the four seasons.</p>		<p>Forces and Magnets</p> <p>Knowledge An object will not move unless a pushing or pulling force is applied. Some forces require direct contact, whereas other forces can act at a distance, such as magnetic force.</p> <p>Skill Explain that an object will not move unless a push or pull force is applied, describing forces in action and whether the force requires direct contact or whether the force can act at a distance (magnetic force).</p> <p>Knowledge Magnets have two poles (north and south). Opposite poles (north and south) attract each other, while like poles (north and north, or south and south) repel each other.</p> <p>Light</p> <p>Knowledge Dark is the absence of light and we need light to be able to see. Skill Describe the differences between dark and light and how we need light to be able to see.</p> <p>Knowledge Light can be reflected from different surfaces. Some surfaces are poor reflectors, such as some fabrics, while other surfaces are good reflectors, such as mirrors.</p> <p>Skill Group and sort materials as being reflective or non-reflective.</p> <p>Knowledge Light from the Sun is damaging for vision and the skin. Protection from the Sun includes sun cream, sun hats, sunglasses and staying indoors or in the shade.</p> <p>Skill Explain why light from the Sun can be dangerous.</p> <p>Knowledge A shadow is formed when light from a light source, such as the Sun, is blocked by an opaque object. Transparent objects allow light to pass through them and do not create shadows.</p> <p>Skill Explain, using words or diagrams, how shadows are formed when a light source is blocked by an opaque object.</p> <p>Knowledge Shadows change shape and size when the light source moves. For example, when the light source is high above the object, the shadow is short and when the light source is low down, the object's shadow is long.</p> <p>Skill Find patterns in the way shadows change during the day.</p>		<p>Knowledge As Earth orbits the Sun, it also spins on its axis. It takes Earth a day (24 hours) to complete a full spin. During the day, the Sun appears to move through the sky. However, this is due to the Earth rotating and not the Sun moving. Earth rotates to the east or, if viewed from above the North Pole, it rotates anticlockwise, which means the Sun rises in the east and sets in the west. As Earth rotates, different parts of it face the Sun, which brings what we call daytime. The part facing away is in shadow, which is night time.</p> <p>Skill Use the idea of Earth's rotation to explain day and night, and the Sun's apparent movement across the sky.</p> <p>Knowledge The Sun, Earth, Moon and the planets in our solar system are roughly spherical. All planets are spherical because their mass is so large that they have their own force of gravity. This force of gravity pulls all of a planet's material towards its centre, which compresses it into the most compact shape – a sphere.</p> <p>Skill Describe the Sun, Earth and Moon as approximately spherical bodies and use this knowledge to understand the phases of the Moon and eclipses.</p> <p>Knowledge The Moon orbits Earth, completing a full orbit every month (28 days).</p> <p>Skill Describe or model the movement of the Moon.</p> <p>Knowledge The Solar System is made up of the Sun and everything that orbits around it. There are eight planets in our Solar System: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. Earth orbits around the Sun and a year (365 days) is the length of time it takes for Earth to complete a full orbit.</p> <p>Skill Describe or model the movement of the planets in our Solar System, including Earth, relative to the Sun.</p> <p>Knowledge The Solar System is made up of the Sun and everything that orbits around it. There are eight planets in our Solar System: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. Earth orbits around the Sun and a year (365 days) is the length of time it takes for Earth to complete a full orbit.</p> <p>Skill Describe or model the movement of the planets in our Solar System, including Earth, relative to the Sun.</p> <p>Forces and Magnets</p> <p>Knowledge Gravity is a force of attraction. Anything with a mass can exert a gravitational pull on another object. The Earth's large mass exerts a gravitational pull on all objects on Earth, making dropped objects fall to the ground.</p> <p>Skill Explain that objects fall to Earth due to the force of gravity.</p>	<p>Light</p> <p>Knowledge A shadow appears when an object blocks the passage of light. Apart from some distortion or fuzziness at the edges, shadows are the same shape as the object. The distortion or fuzziness depends on the position or type of light source.</p> <p>Skill Explain, using words, diagrams or a model, why shadows have the same shape as the objects that cast them and how shadows can be changed.</p> <p>Knowledge Light sources give out light. They can be natural or artificial. When light hits an object, it is absorbed, scattered, reflected or a combination of all three. Light from a source or reflected light enter the eye.</p> <p>Skill Explain that, due to how light travels, we can see things because they give out or reflect light into the eye.</p> <p>Knowledge Light travels in straight lines.</p> <p>Skill Identify that light travels in straight lines.</p>

States of Matter						
EYFS	Y1	Y2	Y3	Y4	Y5	Y6
<p>Reception – Understanding of the World</p> <ul style="list-style-type: none"> Explore the natural world around them. Describe what they see, hear and feel while they are outside. Recognise some environments that are different to the one in which they live. Understand the effect of changing seasons on the natural world around them. <p>ELG: Understanding of the World – The Natural World</p> <ul style="list-style-type: none"> Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. 				<p>Knowledge The water cycle has four stages: evaporation, condensation, precipitation and collection. Water in lakes, rivers and streams is warmed by the Sun, causing the water to evaporate and rise into the air as water vapour. As the water vapour rises, it cools and condenses to form water droplets in clouds. The clouds become full of water until the water falls back to the ground as precipitation (rain, hail, snow and ice). The fallen water collects back in lakes, rivers and streams. Evaporation and condensation are caused by temperature changes.</p> <p>Skill Describe the water cycle using words or diagrams and explain the part played by evaporation and condensation.</p> <p>Knowledge Heating or cooling materials can bring about a change of state. This change of state can be reversible or irreversible. The temperature at which materials change state varies depending on the material. Water changes state from solid (ice) ⇌ liquid (water) at 0°C and from liquid (water) ⇌ gas (water vapour) at 100°C. The process of changing from a solid to liquid is called melting. The reverse process of changing from a liquid to a solid is called freezing. The process of changing from a liquid to a gas is called evaporation. The reverse process of changing from a gas to a liquid is called condensation.</p> <p>Skill Observe and explain that some materials change state when they are heated or cooled and measure or research the temperature in degrees Celsius (°C) at which materials change state.</p> <p>Knowledge Materials can be grouped according to whether they are solids, liquids or gases. Solids stay in one place and can be held. Some solids can be squashed, bent, twisted and stretched. Examples of solids include wood, metal, plastic and clay. Liquids move around (flow) easily and are difficult to hold. Liquids take the shape of the container in which they are held. Examples of liquids include water, juice and milk. Gases spread out to fill the available space and cannot be held. Air is a mixture of gases.</p> <p>Skill Group and sort materials into solids, liquids or gases.</p>		

Scientific Enquiry Vocabulary			
EYFS	Year 1 and 2	Year 3 and 4	Year 5 and 6
question, answer, observe , observing, equipment , identify, sort, chart, compare, describe	question, answer, observe , observing, equipment , identify, classify, sort, diagram, chart, map, data, compare, contrast, describe, biology, chemistry, physics group record	research relevant questions, scientific enquiry, comparative and fair test, systematic, careful, observation, accurate, measurements , equipment thermometer data logger data gather, record, classify, present record drawings labelled diagrams keys bar charts tables, oral and written explanations, conclusion, predictions, differences, similarities, changes, evidence, improve, secondary sources, guides, keys, construct, interpret	record data scientific diagrams, labels, classification keys, tables, scatter graphs, bar graph and line graphs predictions , further comparative and fair test, report and present conclusions, causal relationships, explanations, degree of trust, oral and written display and presentation evidence support, refute ideas or arguments, identify, classify and describe, patterns, systematic , quantitative measurements, plan variables measurements, accuracy, precision, repeat, readings
EYFS Everyday Materials	EYFS Seasons	EYFS Animals including Humans	EYFS Plants
material metal wood rock plastic hard glass soft paper fabric material smooth shiny rough	season summer, winter, autumn, spring, day , daytime weather wind, rain, snow hail, sleet, fog, sun, hot warm, cold	Common animals animal fish birds scales gills reptile pets Human face hair leg human knee elbow head toes ear hands eye fingers mouth nose back spine skull arm Senses Tongue, taste, nose, smell, eyes, vision, skin, touch, ears, hearing Dinosaurs herbivore carnivore omnivore	tree trunk, branches, leaf , root plant leaf, root, bud, flowers, blossom, petals, stem fruit, vegetables, bulb, seed
Y1 Everyday Materials	Y1 Seasons	Y1 Animals including Humans	Y1 Plants
wood, plastic, glass, metal, water, rock, brick, paper, fabrics, elastic, foil, hard/soft, stretchy/stiff, shiny/dull, rough/smooth, bendy/not bendy, waterproof/not waterproof, absorbent/not absorbent	season summer, winter, autumn, spring, day , daytime weather wind, rain, snow hail, sleet, fog, sun, hot warm, cold	Common animals Fish, amphibians, reptiles, birds, mammals, pets Senses Tongue, taste, nose, smell, eyes, vision, skin, touch, ears, hearing Omnivores meat and plants, badger, human, bear, chicken Carnivores Meat, cat, dog, lion, tiger, fox, shark, killer whale, eagle, hawk, snake, tyrannosaurus rex Herbivores Plants, cows, horses, mice, elephants, deer Head, leg, eyes, neck, knees, hair, arms, face, mouth, elbows, ears, teeth	common wild plants, garden plants, deciduous , evergreen tree deciduous, evergreen, trunk, branches, leaf , root plant leaf, root, leaves, bud, flowers, blossom, petals, root, stem fruit, vegetables, bulb, seed
Y2 Using of Everyday Materials	Y2 Living Things and their Habitats	Y2 Animals including Humans	Y2 Plants
wood, metal, plastic, glass, brick, rock, paper, cardboard, squashing, bending, twisting, stretching, wood, matches, floors, waterproof fabric metal, coins, cans, cars, table legs, plastic rubber	Living, dead, never alive, habitats, micro-habitats, food, food chain Sun, grass, cow, human, alive healthy, logs, leaf, litter, stony path, under bushes, shelter, seashore, woodland, ocean, rainforest, conditions, hot/warm/cold, dry/damp/wet, bright/shade/dark	Offspring, grow, adults, survival, water, food, air, exercise, hygiene, nutrition, reproduce egg, chick, chicken, caterpillar, pupa, butterfly, spawn, tadpole, frog, lamb, sheep baby, toddler, child , teenager, adult	common wild plants, garden plants, deciduous, evergreen plant leaf, root, leaves, bud, flowers, blossom, petals, root, stem, grow, healthy tree deciduous, evergreen, trunk, branches, leaf root fruit, vegetables, bulb, seed water light suitable, temperature, germination, reproduction

Y3 Forces Force, push, pull, open, surface, magnet, magnetic, attract, repel, magnetic poles, North, South	Y3 Light light, see, dark, reflect, surface, natural star, Sun, Moon, Shadow, blocked, solid, artificial, torch, candle, lamp, sunlight, dangerous, protect eyes	Y3 Animals including Humans Nutrition, nutrients, carbohydrates, protein Fats, fibre, water, vitamins, minerals, skeleton, bones, joints, endoskeleton exoskeleton, hydrostatic skeleton, vertebrate , invertebrate, contract, relax, muscles, ball joint, socket joint, hinge joint, gliding joint	Y3 Rocks Appearance, physical, properties, hard/soft, shiny/dull, rough/smooth , absorbent/not absorbent, fossils, sedimentary, rock, soils organic matter, buildings, gravestones, grains, crystals	Y3 Plants Common, wild plants, garden plants , deciduous evergreen tree deciduous evergreen trunk branches leaf root plant leaf, root, leaves, bud, flowers, blossom petals, root, stem, fruit, vegetables , bulb , seed
Y4 States of Matter Solid, solidify, iron, ice, melt, freeze, liquid Evaporate, condense, gas, container, changing state, heated, heat, cooled, cool, degrees Celsius °C, thermometer, water cycle, evaporation, temperature, warm/cool, water, water vapor	Y4 Living Things and their Habitats environment , flowering, non-flowering , plants, animals, vertebrate, environment dangers! invertebrate snails, slugs, worms, spiders, insects Human impact positive - nature reserves, ecologically planned parks, garden ponds negative - population, development, litter, deforestation plants flowering plants (including grasses) non-flowering (including mosses and ferns) vertebrate fish, amphibians, reptiles, birds, mammals	Y4 Animals including Humans human digestive system digestion, mouth, tongue - mixes, moistens saliva, oesophagus, transport, stomach acid , enzymes, small intestine – absorbs water vitamins, large intestine – compacts, colon teeth incisors – cutting, slicing, canines – ripping, tearing, molars – chewing, grinding, floss, brush food chain sun, producers, prey, predators, carnivore, herbivore, omnivore	Y4 Sound vibrate, vibration, vibrating, air, medium, ear hear, sound, volume, pitch, faint, fainter loud, louder, string, percussion, woodwind brass, insulate	Y5 Electricity appliances, electricity, electrical circuit, cell wire, bulb, buzzer, danger, electrical safety sign insulators wood, rubber, plastic, glass conductors metal water switch open closed
Y5 Properties and Changes of Materials Properties, hardness, solubility, transparency electrical conductor, thermal conductor response to magnets, dissolve, solution separate, separating, solids, liquids, gases evaporating, reversible changes, dissolving, mixing, evaporation, filtering, sieving melting, irreversible, new material burning, rusting, magnetism, electricity, quantitative, measurements, conductivity insulation, chemical	Y5 Living Things and their Habitats life cycles mammal, amphibian, insect, bird life process of reproduction plants, animals, vegetable garden, flower boarder reproduction plants: sexual, asexual , animals: sexual lifecycles around the world rainforest, oceans, desert, prehistoric similarities, differences	Y5 Animals including Humans Puberty, life cycle, gestation, growth, reproduce foetus, baby fertilisation, toddler child teenager adult, old age life expectancy adolescence, adulthood, early adulthood middle adulthood, late adulthood childhood	Y5 Earth and Space Earth, Sun, Moon, moons, planets, stars solar system, Mercury, Venus, Mars, Jupiter Saturn , Uranus, Neptune, Pluto, rotate, day Night, Aristotle, Ptolemy, Galileo, Copernicus Brahe, Alhazen, orbit, axis, spherical, heliocentric, geocentric Hemisphere, season, tilt	Y5 Forces Gravity, air resistance, water resistance Friction, surface, force, effect, move, accelerate, decelerate, stop, change direction Brake, mechanism, pulley, gear, spring, Theory of gravitation, Galileo Galilei , Isaac Newton
Y6 Evolution and Inheritance evolution , adaption , inherited traits, adaptive traits, natural selection inheritance Charles Darwin Alfred Wallace, DNA Genes, variation, parent, offspring, fossil , environment, habitat	Y6 Living Things and their Habitats Classify, compare Linnaean, Carl Linnaeus classification, domain, kingdom, phylum class Order, family, genus, species, characteristics, vertebrates, invertebrates, microorganisms organism, flowering, non-flowering	Y6 Animals including Humans internal organs, heart, lungs, liver , kidney, brain skeletal, skeleton, muscle, muscular, digest, digestion, digestive, circulatory system, heart blood vessels, blood, impact, diet, exercise, drugs lifestyle, nutrients, water, damage, drugs, alcohol substances,	Y6 Electricity voltage, brightness, volume, switches, danger series circuit, electrical safety sign, circuit, diagrams, switch, bulb, buzzer, motor, recognised, symbols	Y6 Light light, travels, straight, object, shadows , reflect reflection, light source, filters, mirrors, periscope

Science SEND Strategies	
	Here is how we will help:
Attention Deficit Hyperactivity Disorder	<ul style="list-style-type: none"> Practical activities – Science lessons have practical activities at their heart – if a child needs support for this, the classroom TA to be on hand to help (but not lead) the activity.
Anxiety	<ul style="list-style-type: none"> Children are prepared before the science lesson- instructions for carrying out the experiment are given, and children are talked through the steps, predictions are discussed beforehand, and children are prepared for any reactions/noises
Autism Spectrum Disorder	<p>Depending on the child and their specific needs, children on the Autism Spectrum may benefit from:</p> <ul style="list-style-type: none"> Group work (they may be given a role within the group that they have chosen or can observe) One-to-one TA support – children can complete the experiment with tailored support Preparation if there will be loud noises/mess etc. Being allowed to meet their own sensory needs e.g. wash hands/give themselves distance if required Use annotate photographs as evidence – scribe if needed
Dyscalculia	<p>The most difficult element for dyscalculia in science is recording accurately. To help we will:</p> <ul style="list-style-type: none"> Give the child a pre-made graph with some data already completed Have a range of ways to show their learning including: photographs, diagrams, labels to stick on to pictures, worksheets, posters, presentations (oral and visual), working in groups, verbal contributions, practical experiments and observations, matching activities etc. So writing does not interfere with showing knowledge
Dyslexia	<ul style="list-style-type: none">
Dyspraxia	<ul style="list-style-type: none"> Give opportunity for working in groups to allow children to work to their strengths Experiments will be altered to allow access to all TA/Teacher support will be given where required
Hearing Impairment	<ul style="list-style-type: none"> Provide written and pictorial instructions Allow discussion and sharing of ideas to build verbal skills Have group members face the child when sharing
Toileting Issues	<ul style="list-style-type: none"> Allow time to complete the experiment – give extra time if required
Cognition and learning challenges	<ul style="list-style-type: none"> We will allow for a range of ways for children to explain an experiment/results including in words, pictures, comparisons to real-life situations and contextualisation
Speech, Language & Communication Needs	<ul style="list-style-type: none"> We will have a range of ways to show their learning including: photographs, diagrams, labels to stick onto pictures, worksheets, posters, presentations (oral and visual), working in groups, verbal contributions, practical experiments and observations, matching activities etc. Vocabulary cards/mats with visual representations will be used to give instructions and to structure the sessions
Tourette Syndrome	<ul style="list-style-type: none"> Depending on frequency and severity of tics, some experiments may need to be adapted to accommodate spillage and experiments will be carefully supervised
Experienced Trauma	<ul style="list-style-type: none"> As with anxiety, trauma can stop a child learning in science due to associations e.g. sights, smells, textures We will prepare the child regarding noises, mess etc. If the experiment has the potential to trigger them We will allow the child to observe rather than participate if needed – in group work, this could be allowing them to scribe, give instructions etc. To be involved in the experiment without handling the ingredients/equipment
Visual Impairment	<ul style="list-style-type: none"> Familiarise the child with the equipment being used beforehand – let them feel the equipment and create an image in their mind. Discuss the experiment beforehand and prepare the child for any noises/textures The child will complete the experiment with support given by TA/teacher as needed We will provide a range of ways to show their learning including: photographs, diagrams, labels to stick onto pictures, worksheets, posters, presentations (oral and visual), working in groups, verbal contributions, practical experiments and observations, matching activities etc. We will explain the representation to the child and scribe responses to experiment, predictions beforehand etc.