



Three Peaks Primary Academy

Science

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



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Aims of the Science Curriculum

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

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

Our Science curriculum is knowledge and vocabulary rich, ensuring children gain a deep understanding of fundamental scientific knowledge and concepts as well as embedding key science specific vocabulary and terminology. In addition, children are encouraged to develop their scientific curiosity and understanding by working scientifically.



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Science in Early Years

In Early Years, children are encouraged and guided to use investigation and exploration to develop their understanding of the world. Our curriculum is designed to enable children to make sense of their physical world and their community. Children are encouraged to be scientists, to:

- Show curiosity and interest in the features of objects and living things
- Describe and talk about what they see
- Show curiosity about why things happen and how things work
- Show understanding of cause-effect relations
- Notice and comment on patterns
- Show an awareness of change
- Explain own knowledge and understanding, and ask appropriate questions of others
- Investigate objects and materials by using all of their senses as appropriate
- Find out about, and identify, some features of living things, objects and events they observe
- Look closely at similarities, differences, patterns and change
- Ask questions about why things happen and how things work.

	ELG's	How this is achieved in EYFS	Science KS1	
			Year 1	Year 2
			Specific Area of Learning Understanding the World	
Plants				
Seasonal changes	Living things and their habitats.			
ELG 2 Managing Self <ul style="list-style-type: none"> • Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices. 		<ul style="list-style-type: none"> • Discussions at snack time of the importance of healthy food choices. • During lunch time discussions. • Through stories and circle time discussions. E.g The story – Now wash your hands and Funnybones. • P.E lessons that encourage getting dressed and undressed independently. • Naming body parts through songs – Heads, shoulders, knees and toes. • RSE link – Correct naming of body parts. • Talking about pets at home. • Exploring minibeasts and recording our observations. 	ELG 14 The Natural World <ul style="list-style-type: none"> • Explore the natural world around them, making observations and drawing pictures of animals and plants 	
ELG 14 The Natural World <ul style="list-style-type: none"> • Explore the natural world around them, making observations and drawing pictures of animals and plants. 			Everyday materials	
ELG 14 The Natural World <ul style="list-style-type: none"> • Understanding some important processes and changes in the natural world around them, including seasons and changing states of matter. 			Uses of everyday materials	



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Key Stage 1

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In addition, children are encouraged to develop their scientific curiosity and understanding by working scientifically.

Geography National Curriculum Expectations – Key Stage 1. Pupils will be taught about :

Working scientifically

- 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



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Science National Curriculum Expectations – Year 1. Pupils will be taught to :

Plants

- Identify and name a variety of common wild and garden plants, including evergreen and deciduous trees
- Identify and describe the basic structure of a variety of common flowering plants, including trees

Human and physical geography

- 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 (fish, amphibians, reptiles, birds and mammals including pets)
- identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense

Everyday materials

- 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
- compare and group together a variety of everyday materials on the basis of their simple physical properties

Seasonal changes

- observe changes across the 4 seasons
- observe and describe weather associated with the seasons and how day length varies



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Science National Curriculum Expectations – Year 2 Pupils will be taught to :

Living things and their habitats

- explore and compare the differences between things that are living, dead, and things that have never been alive
- 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 microhabitats
- describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food

Plants

- 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

Animals, including humans

- notice that animals, including humans, have offspring which grow into adults
- find out about and describe the basic needs of animals, including humans, for survival (water, food and air)
- describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene

Using everyday materials

- identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses
- find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching



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Lower Key Stage 2

Our Science curriculum is knowledge and vocabulary rich, ensuring children gain a deep understanding of fundamental scientific knowledge and concepts as well as embedding key science specific vocabulary and terminology

In addition, children are encouraged to develop their scientific curiosity and understanding by working scientifically.

Geography National Curriculum Expectations – Lower Key Stage 2. Pupils will be taught about :

Working scientifically

- 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.



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Science National Curriculum Expectations – Year 3 Pupils will be taught to :

Plants

- 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

Animals including humans

- identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat
- identify that humans and some other animals have skeletons and muscles for support, protection and movement

Rocks

- compare and group together different kinds of rocks on the basis of their appearance and simple physical properties
- describe in simple terms how fossils are formed when things that have lived are trapped within rock
- recognise that soils are made from rocks and organic matter

Light

- recognise that they need light in order to see things and that dark is the absence of light
- notice that light is reflected from surfaces
- 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

Forces and magnets

- compare how things move on different surfaces
- notice that some forces need contact between 2 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 on the basis of whether they are attracted to a magnet, and identify some magnetic materials
- describe magnets as having 2 poles
- predict whether 2 magnets will attract or repel each other, depending on which poles are facing



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Science National Curriculum Expectations – Year 4 Pupils will be taught to :

Living things and their habitats

- 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

Animals including humans

- 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
- construct and interpret a variety of food chains, identifying producers, predators and prey

States of matter

- compare and group materials together, according to whether they are solids, liquids or gases
- 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

Sound

- 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

Electricity

- identify common appliances that run on electricity
- construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
- 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 or not a lamp lights in a simple series circuit
- recognise some common conductors and insulators, and associate metals with being good conductors



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Upper Key Stage 2

Our Science curriculum is knowledge and vocabulary rich, ensuring children gain a deep understanding of fundamental scientific knowledge and concepts as well as embedding key science specific vocabulary and terminology

In addition, children are encouraged to develop their scientific curiosity and understanding by working scientifically.

Science National Curriculum Expectations – Upper Key Stage 2. Pupils will be taught about :

Working scientifically

- 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



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Science National Curriculum Expectations – Year 5 Pupils will be taught to :

Living things and their habitats

- 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

Animals including humans

- describe the changes as humans develop to old age

Properties and changes of materials

- 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
- know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution
- use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating
- give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic
- demonstrate that dissolving, mixing and changes of state are reversible changes
- explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda

Earth and space

- 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
- use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky

Forces

- 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



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Science National Curriculum Expectations – Year 6 Pupils will be taught to :

Living things and their habitats

- 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

Animals including humans

- 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 bodies function
- describe the ways in which nutrients and water are transported within animals, including humans

Evolution and inheritance

- recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago
- recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents
- identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution

Light

- 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

Electricity

- 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



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Science—Implementation

Modular Approach – Knowledge

At Three Peaks Primary Academy, Science is taught across each year group in modules through our Curriculum that enable pupils to study in depth key geographical understanding, skills and vocabulary. Each module aims to activate and build upon prior learning, including EYFS, to ensure better cognition and retention. Each module is carefully sequenced to enable pupils to purposefully layer learning from previous sessions to facilitate the acquisition and retention of key geographical knowledge. Each module is revisited either later in the year or in the following year as part of a spaced retrieval practice method to ensure pupils retain key knowledge and information.

Subject Skills

As well as ensuring pupils are taught key knowledge, each module is designed to offer pupils the opportunity to develop their skills as a geographer in asking questions, planning and carrying out fieldwork, collecting and analysing information and drawing conclusions.

Knowledge Organisers and Knowledge Notes

Accompanying each module is a Knowledge Organiser which contains key vocabulary, information and concepts which all pupils are expected to understand and retain. Knowledge notes are the elaboration and detail to help pupils acquire the content of each module. They support vocabulary and concept acquisition through a well-structured sequence that is cumulative. Each Knowledge Note begins with questions that link back to the cumulative quizzing, focussing on key content to be learnt and understood. Knowledge Organisers and Knowledge Notes are dual coded to provide pupils with visual calls to aid understanding and recall. Knowledge Organisers and Knowledge notes are referenced throughout each module and copies of the Knowledge Organiser are sent home to families to support with home learning. In addition, pupils can access at home key learning platforms that are used in school e.g. Curriculum Visions.

Vocabulary

Vocabulary forms a key part of our wider curriculum. Subject specific words are incorporated in each module and pupils are encouraged to develop their own 'Vital Vocabulary' lists along with dual coding to expand their geography vocabulary repertoire.



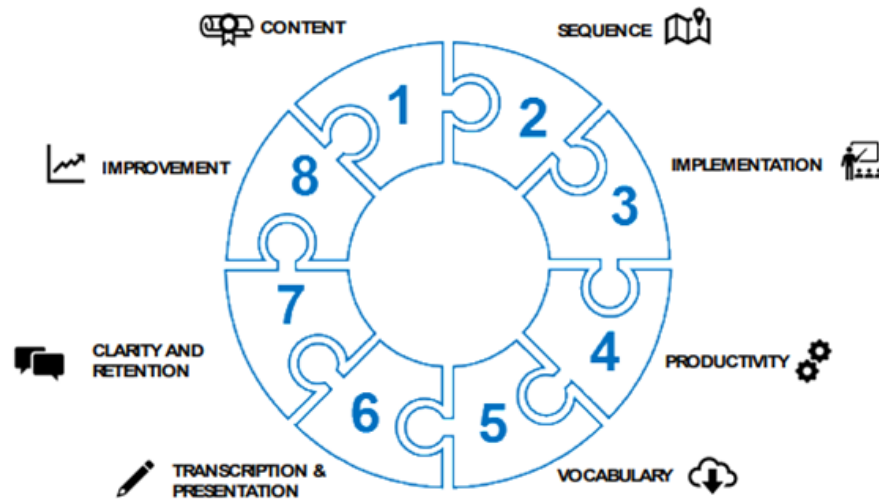
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Impact will be assessed through :

Pupil Book Study

Senior leaders and subject leaders regularly undertake book studies to monitor the effectiveness of teaching and learning. This includes sessions with small groups of pupils using questioning to check and ensure information and knowledge is acquired and understood with increasing confidence. Feedback is given to teaching staff to inform future planning.

QUALITY ASSURE books through studying:



Ongoing Teacher Assessment

Teachers assess pupils throughout each session . Pupils who are identified as needing support will be supported either during post teaching interventions or in the following session as appropriate. Pupils working at above expected standard will also be identified and challenged appropriately to extend their learning. Evidence of this support or challenge and necessary feedback will be clear in books.



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SCIENCE National Curriculum Expectations KS1	Year 1		
	Autumn	Spring	Summer
<p>Plants</p> <p>identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p>identify and describe the basic structure of a variety of common flowering plants, including trees.</p>			
<p>Animals, including humans</p> <p>identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> <p>identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> <p>describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</p> <p>identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p>			
<p>Everyday materials</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</p> <p>describe the simple physical properties of a variety of everyday materials</p> <p>compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>			
<p>Seasonal changes</p> <p>observe changes across the four seasons</p> <p>observe and describe weather associated with the seasons and how day length varies.</p>			



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SCIENCE National Curriculum Expectations KS1	Year 2		
	Autumn	Spring	Summer
<p>Living things and their habitats</p> <p>explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other</p> <p>identify and name a variety of plants and animals in their habitats, including micro- habitats</p> <p>describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p>			
<p>Plants</p> <p>observe and describe how seeds and bulbs grow into mature plants</p> <p>find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>			
<p>Animals, including humans</p> <p>notice that animals, including humans, have offspring which grow into adults</p> <p>find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>			
<p>Uses of everyday materials</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</p> <p>find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>			



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SCIENCE National Curriculum Expectations Year 3	Year 3		
	Autumn	Spring	Summer
<p>3. Plants</p> <p>identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <p>explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant</p> <p>investigate the way in which water is transported within plants</p> <p>explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>			
<p>Animals, including humans</p> <p>identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat</p> <p>identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>			
<p>Rocks</p> <p>compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>describe in simple terms how fossils are formed when things that have lived are trapped within rock</p>			
<p>Light</p> <p>recognise that they need light in order to see things and that dark is the absence of light</p> <p>notice that light is reflected from surfaces</p> <p>recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>recognise that shadows are formed when the light from a light source is blocked by an opaque object</p> <p>find patterns in the way that the size of shadows change.</p>			
<p>Forces and magnets</p> <p>compare how things move on different surfaces</p> <p>notice that some forces need contact between two objects, but magnetic forces can act at a distance</p> <p>observe how magnets attract or repel each other and attract some materials and not others</p> <p>compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials</p> <p>describe magnets as having two poles</p> <p>predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>			



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SCIENCE National Curriculum Expectations Year 4	Year 4		
	Au-tumn	Spring	Sum-mer
<p>4 Living things and their habitats</p> <p>recognise that living things can be grouped in a variety of ways</p> <p>explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</p> <p>recognise that environments can change and that this can sometimes pose dangers to living things.</p>			
<p>Animals, including humans</p> <p>describe the simple functions of the basic parts of the digestive system in humans</p> <p>identify the different types of teeth in humans and their simple functions</p> <p>construct and interpret a variety of food chains, identifying producers, predators and prey.</p>			
<p>States of matter</p> <p>compare and group materials together, according to whether they are solids, liquids or gases</p> <p>observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)</p> <p>identify the part played by evaporation and condensation in the water cycle and associate the rate of</p>			
<p>Sound</p> <p>identify how sounds are made, associating some of them with something vibrating</p> <p>recognise that vibrations from sounds travel through a medium to the ear</p> <p>find patterns between the pitch of a sound and features of the object that produced it</p> <p>find patterns between the volume of a sound and the strength of the vibrations that produced it</p> <p>recognise that sounds get fainter as the distance from the sound source increases.</p>			
<p>Electricity</p> <p>identify common appliances that run on electricity</p> <p>construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <p>identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery</p> <p>recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</p> <p>recognise some common conductors and insulators, and associate metals with being good conductors.</p>			



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SCIENCE National Curriculum Expectations Year 5	Year 5		
	Autumn	Spring	Summer
<p>Living things and their habitats</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> 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 			
<p>Animals, including humans</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> describe the changes as humans develop to old age 			
<p>Properties and changes of materials</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> 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 know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic demonstrate that dissolving, mixing and changes of state are reversible changes explain that some changes result in the formation of new materials, and that this kind of change is not usually 			
<p>Earth and space</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> 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 use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky 			
<p>Forces</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> 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 			



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SCIENCE National Curriculum Expectations Year 6	Year 6		
	Autumn	Spring	Summer
<p>Living things and their habitats</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> 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>Animals including humans</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> 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 bodies function (Summer) describe the ways in which nutrients and water are transported within animals, including humans (Summer) 			
<p>Evolution and inheritance</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> 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>Light</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> 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>Electricity</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> 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 			