



Science Progression Map: Working Scientifically Skills and Concept Knowledge

Key Stage 1 National Curriculum Expectations

Working Scientifically: KS1

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.

Year 1

Pupils should be taught to:

Plants

- 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.

Animals Including Humans

- 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 four seasons.
- observe and describe weather associated with the seasons and how day length varies.



Key Stage 1 National Curriculum Expectations

Year 2

Pupils should 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 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.

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 health.

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.

Uses of Everyday Materials

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



Key Stage 2 National Curriculum Expectations

Working Scientifically: Lower KS2

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.

Working Scientifically: Upper KS2

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 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.



Key Stage 2 National Curriculum Expectations

Year 3

Pupils should 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 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 on the basis of 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.



Key Stage 2 National Curriculum Expectations

Year 4

Pupils should 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 ($^{\circ}\text{C}$).
- 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



Key Stage 2 National Curriculum Expectations

Year 5

Pupils should 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.



Key Stage 2 National Curriculum Expectations

Year 6

Pupils should 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.



Intent

At MJS, our ultimate aim for science is to excite the children and increase their curiosity and knowledge of the world around them. We aim to embed an understanding that science is everywhere, related to all aspects of our lives, and encourage the children to make links and raise their own scientific questions, both during discrete science lessons and across the curriculum.

This is achieved by delivering high-quality science lessons, which teach the key knowledge and working scientifically skills identified within each unit and across each year group, in accordance with National Curriculum expectations. We aim to enable children to acquire both key scientific knowledge and skills through teacher-directed instruction and practical investigations. Children are encouraged to work scientifically in groups, taking responsibility for using different equipment to test their predictions, recording and explaining their results and linking explanations back to various salient scientific concepts.

We are mindful of the different approaches that SEND and disadvantaged children may need to reach their full potential in science. We aspire to smash all stereotypes in relation to science and show children that amazing scientists are ordinary people from different backgrounds, who love science and have worked hard.

Implementation

Our scientists at MJS are curious and perceptive thinkers who are engaged and enthusiastic during science lessons. They are keen to share their previous knowledge and skills and deepen their understanding by linking this to new scientific areas. We support the children to do this with retrieval activities embedded within every science lesson and we emphasise the importance of understanding and using key scientific vocabulary. We make connections between our MJS PROUD skills (Purposeful, Resilient, Organised, Understanding, Dedicated) and our science concept and skills learning and we teach children about various scientists and how they became famous by developing these skills. We focus on scientists of different ages and from different backgrounds to learn about science's 'uses and significance to society and their own lives' ('Research Review Series: Science', Ofsted, April 2021). This challenge stereotypes and shows the children that jobs in science (and STEM) are available to all.

Science is taught at MJS in the following ways:

- Science is taught through subject-specific lessons and emphasis is placed on 'working as a scientist'.
- Science is usually taught once a week; however, some units are blocked to allow for a more flexible teaching sequence.
- Curriculum planning is in accordance with National Curriculum and working scientifically is embedded throughout the teaching of all objectives in each year group.
- PLAN science resources are used to ensure misconceptions are effectively addressed and that there is a clear progression of subject knowledge, working scientifically and vocabulary use.
- We build upon the learning and skill development of the previous years (see progression map below). As the children's knowledge and understanding increases (and they become more proficient in selecting, using scientific equipment, collating and interpreting results) they become increasingly confident in their growing ability to come to conclusions based on real evidence.
- Cross curricular opportunities are also identified, mapped and planned to ensure contextual relevance and unit sequencing takes consideration of maths skills required.
- Special events, such as Science Week, visits and visitors allow for further acquisition and application of knowledge and skills.

Impact

MJS children leave us in Year 6 with a strong knowledge of the relevant scientific concepts covered at Primary level and having developed and progressed their working scientifically skills, ready for their three discrete science lessons at secondary school. They are able to apply the skills they have learnt in science to other subjects, across the curriculum, throughout their secondary journey and they are enthusiastic and curious about the world around them; keen to learn more. MJS children understand how important and linked science is to every area of our lives and they are confident in the belief that a successful future in science and STEM is available to all.



Working Scientifically	KS1	LKS2	UKS2
	Explore the world around them and raise their own simple questions.	Raise their own relevant questions about the world around them.	Use their science experiences to explore ideas and raise different kinds of questions.
	Experience different types of scientific enquiries, including practical activities.	Should be given a range of scientific experiences including different types of science enquiries to answer questions.	Talk about how scientific ideas have developed over time.
	Begin to recognise different ways in which they might answer specific questions.	Start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions.	Select and plan the most appropriate type of scientific enquiry to use to answer scientific questions.
	Carry out simple tests.	Set up simple practical enquiries, comparative and fair tests; recognise when a simple fair test is necessary and help to decide how to set it up.	Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why.
	Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them (identifying and classifying).	Talk about criteria for grouping, sorting and classifying and use simple keys.	Use and develop keys and other information records to identify, classify and describe living things and materials, and identify patterns that might be found in the natural environment.
	Ask people questions and use simple secondary sources to find answers.	Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations.	Recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact.
	Observe closely using simple equipment with help and observe changes over time.	Make systematic and careful observations. Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used.	Make their own decisions about what observations to make, what measurements to use and how long to make them for.
	With guidance, they should begin to notice patterns and relationships.	Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them.	Look for different causal relationships in their data and identify evidence that refutes or supports their ideas.
	Use simple measurements and equipment (e.g. hand lenses, egg timers) to gather data.	Take accurate measurements using standard units. Learn how to use a range of (new) equipment, such as data loggers / thermometers appropriately.	Choose the most appropriate equipment to make measurements with increasing precision and explain how to use it accurately. Take repeat measurements where appropriate.
	Record simple data.	Collect and record data from their own observations and measurements in a variety of ways: notes, bar charts and tables, standard units, drawings, labelled diagrams, keys and help to make decisions about how to analyse this data.	Decide how to record data and results of increasing complexity from a choice of familiar approaches: scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.



Working Scientifically	KS1	LKS2	UKS2
	Use their observations and ideas to suggest answers to questions and talk about what they found out and how they found it out.	With help, pupils should look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions.	Identify scientific evidence that has been used to support or refute ideas or arguments.
	With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language.	Use relevant simple scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences, including oral and written explanations, displays or presentations of results and conclusions.	Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas, Use oral and written forms such as displays and other presentations to report conclusions, causal relationships and explanations of degree of trust in results.
		Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas. Use oral and written forms such as displays and other presentations to report conclusions, causal relationships and explanations of degree of trust in results.	Use their results to make predictions and identify when further observations, comparative and fair tests might be needed.



	KS1	LKS2	UKS2
Biology Plants:			
	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. (Y1)	Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.(Y3)	
	Identify and describe the basic structure of a variety of common flowering plants. (Y1)	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. (Y3)	
	Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. (Y2)	Investigate the way in which water is transported within plants.(Y3)	
	Observe and describe how seeds and bulbs grow into mature plants.(Y2)	Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.(Y3)	Describe the life process of reproduction in some plants.(Y5)
Living Things and their Habitats:			
	Explore and compare the differences between things that are living, dead, and things that have never been alive. (Y2)	Recognise that living things can be grouped in a variety of ways.(Y4) Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.(Y4)	Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants, and animals. (Y6)
	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.(Y2)	Recognise that environments can change and that this can sometimes pose dangers to living things.(Y4)	Give reasons for classifying plants and animals based on special characteristics. (Y6)
	Identify and name a variety of plants and animals in their habitats, including micro-habitats.(Y2)		
	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.(Y2)	Construct and interpret a variety of food chains, identifying producers, predators and prey.(Y4)	



	KS1	LKS2	UKS2
Animals Including Humans:			
	Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.(Y1)		
	Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).(Y1)		
	Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.(Y1)	Identify that humans and some other animals have skeletons and muscles for support, protection and movement. (Y3)	Identify and name the main parts of the circulatory system, and explain the functions of the heart, blood vessels and blood.(Y6)
	Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).(Y2)		Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.(Y6) Describe the ways in which nutrients and water are transported within Animals, including humans, including humans (Y6)
	Notice that animals, including humans, have offspring which grow into adults.(Y2)	Identify the different types of teeth in humans and their simple functions. (Y4)	Describe the life processes of reproduction in Animals.(Y5) Describe the changes as humans develop from birth to old age.(Y5) Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.(Y5)
	Describe the importance for humans of including exercise, eating the right amounts of different types of food, and hygiene.(Y2)	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. (Y3)	
	Identify and name a variety of common animals that are carnivores, herbivores and omnivores.(Y1)	Describe the simple functions of the basic parts of the digestive system in humans.(Y4)	

	KS1	LKS2	UKS2
Evolution and Genetics:			
		simple functions.(Y4)	Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.(Y6)
			Identify how Animals, including humans and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.(Y6)
			Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.(Y6)
Chemistry Materials:			
	Identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock.(Y1) Distinguish between an object and the material from which it is made.(Y1)	Compare and group materials together, according to whether they are solids, liquids or gases. (Y4)	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.(Y5)
	Describe the simple physical properties of a variety of everyday materials.(Y1)	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).(Y4)	Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.(Y5)
	Compare and group together a variety of everyday materials on the basis of their simple physical properties.(Y1)	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.(Y3)	Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic(Y5)



	KS1	LKS2	UKS2
Chemistry 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 (Y2)		
		Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.(Y4)	Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.(Y5) Demonstrate that dissolving, mixing and changes of state are reversible changes.(Y5)
			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.(Y5)
Rocks			
		Recognise that that soils are made from rocks and organic matter.(Y3)	
		Describe in simple terms how fossils are formed when things that have lived are trapped within rock.(Y3)	Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.(Y6)
		Compare and group together different kinds of rocks on the basis of their simple physical properties.(Y3)	



	KS1	LKS2	UKS2
Physics Motion and Forces:			
	Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.(Y2)	Compare how things move on different surfaces.(Y3)	Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.(Y5)
		Notice that some forces need contact between two objects, but magnetic forces can act at a distance.(Y3)	Identify the effects of air resistance, water resistance and friction, that act between moving surfaces.(Y5)
			Recognise that some mechanisms, including gears, pulleys, levers and springs, allow a smaller force to have a greater effect.
Waves – Light:			
	Observe changes across the four seasons.(Y1)	Notice that light is reflected from surfaces(Y3)	Recognise that light appears to travel in straight lines.(Y6)
	Observe how day length varies.(Y1)	Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.(Y3)	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.(Y6)
		Recognise that they need light in order to see things and that dark is the absence of light.(Y3)	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.(Y6)
		Recognise that shadows are formed when the light from a light source is blocked by a solid object.(Y3)	Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.(Y6)
		Find patterns that determine the size of shadows.(Y3)	



	KS1	LKS2	UKS2
Waves - Sound:			
		Identify how sounds are made, associating some of them with something vibrating.(Y4)	
		Recognise that vibrations from sounds travel through a medium to the ear.(Y4)	
		Find patterns between the pitch of a sound and features of the object that produced it.(Y4)	
		Find patterns between the volume of a sound and the strength of the vibrations that produced it.(Y4)	
		Recognise that sounds get fainter as the distance from the sound source increases.(Y4)	
Magnetism			
		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. (Y3)	
		Observe how magnets attract or repel each other and attract some materials and not others. (Y3)	
		Describe magnets as having two poles.(Y3)	
		Predict whether two magnets will attract or repel each other, depending on which poles are facing.(Y3)	



	KS1	LKS2	UKS2
Electricity:			
		Identify common appliances that run on electricity.(Y4)	
		Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.(Y4)	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in a circuit.(Y6)
		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.(Y4)	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.(Y6)
		Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.(Y4)	
		Recognise some common conductors and insulators and associate metals with being good conductors.(Y4)	
			Use recognised symbols when representing a simple circuit in a diagram.(Y6)
Earth and Space			
	Observe changes across the four seasons.(Y1)		Describe the movement of the Earth, and other planets, relative to the Sun in the Solar System.(Y5)
			Describe the movement of the Moon relative to the Earth.(Y5)
			Describe the Sun, Earth and Moon as approximately spherical bodies.(Y5)
	Observe and describe weather associated with the seasons and how day length varies.(Y1)		Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.(Y5)

