Science overview						
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Reception	**Knowledge** Early Learning Goal: Understanding 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 seasons and changing states of matter. **EYFS knowledge:** Through singing head, shoulders, knees and toes this provides opportunity for the children to verbally label parts of their body. This song is in a collection of keys songs and nursery rhymes which are sung in class. Key text, Funny Bones provides children with the opportunity to draw their body and add bones to it through collage. Construction play also provides children with the opportunity to create a body through wooden brick or loose parts. Children will often use large wall paper to draw around first. This again provides opportunity to label parts of the body. The senses are referenced to throughout the class	**Knowledge** Early Learning Goal: Understanding 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 seasons and changing states of matter. **EYFS knowledge:** Children have access to a junk modelling resource box where they can choose which materials to use to construct. The children are encouraged to share their creations with EYFS staff and peers. They will be questioned about what materials they used and the making process. A variety of construction resources are provided to encourage the children to use a variety of materials within their play. Again, staff make observations and question them as to what materials they have used. Recycling bags are used for the children to begin to sort objects into different materials.	**Knowledge** Early Learning Goal: Understanding 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 seasons and changing states of matter. **EYFS knowledge:** The EYFS children help plant bulbs around the school grounds. These bulbs are then monitored and their growth discussed during playtimes, small group times or whole class 'welly walk' times. The children observe the school grounds on 'welly walks' and are encouraged to comment on what they see in their natural world. What's different depending upon the seasons. The children and their families are encouraged to share their experiences of Tapestry. What did they see when they went on a walk? Binoculars, telescopes, magnify glasses are provided through planned continuous provision to look at plants, birds and tress.	**Knowledge** Early Learning Goal: Understanding 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 seasons and changing states of matter. **EYFS knowledge:** During construction play the children have the opportunity to use a variety of toy animals for example, farm, safari, sea life and artic animals. As the children play, EYFS staff play alongside the children to question and further develop the children's knowledge of animals. Key focus activities and continuous provision planned activities provide children with the opportunity to sort animals into groups and habitats.	**Knowledge** Early Learning Goal: Understanding 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 seasons and changing states of matter. **EYFS knowledge:** Children have access to a junk modelling resource box where they can choose which materials to use to construct. The children are encouraged to share their creations with EYFS staff and peers. They will be questioned about what materials they used and the making process. A variety of construction resources are provided to encourage the children to use a variety of materials within their play. Again, staff make observations and question them as to what materials they have used. Recycling bags are used for the children to begin to sort objects into different materials.	**Knowledge** Early Learning Goal: Understanding 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 seasons and changing states of matter. **EYFS Knowledge:** Completing the daily weather chart during registration provides children with the opportunity to reflect upon today's weather and how it might change. Stories including weather and the seasons are shared during whole class story times and discussed at the end. What do we need to wear outside? The children are encouraged to begin to be independent in dressing for the weather so they are encouraged to describe the weather and reflect on how it affects them and their 'lovely learning' outside. During 'welly walks' around the school grounds, the children are encouraged to observe and talk about what they have observed for example 'giant puddles from

	routines, play and focus led activities. For example I can see… is tidying up really nicely. Smelling activities are provided on the investigation table as well as a feely box to describe texture.		Writing/recording of what they observe is encouraged by EYFS staff and using a variety of resources, for example pastels, pencils, pens. Children will also be encouraged to label their pictures/observations with support from EYFS staff.			the rain.' 'Rainbows over the park.' A class visual timetable is used to support the children measure the length of their day; we change the timetable at lunchtime to reflect learning in the afternoon. The daily weather chart also has the days of the week, days of the week are said out loud with the children encouraged to join in.
Year 1 Ch need to observe the seasonal changes and changes in day length across the year, in preparation for the Summer 2 science focus.	**What makes me marvellous?** **Knowledge** Children will be able to: • classify themselves as a mammal • **identify, name, draw and label the basic parts of the human body** • identify the five senses and say which part of the body is associated with each sense	**What's in the toy box?** **Knowledge** Children will be able to: • Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. • **Distinguish between an object and the material from which it is made**	**What makes our school grounds special?** **Knowledge** Children will be able to: • identify and name a variety of common wild and garden plants • **identify and describe the basic structure of a variety of common flowering plants** • identify different types of trees, including whether they are deciduous or evergreen trees	**Where do I live?** **Knowledge** Children will be able to: • identify and name a variety of common animals (including fish, amphibians, reptiles, birds and mammals) • **describe what common animals eat and classify them as carnivores, herbivores and omnivores** • **describe the body covering (fur, skin, feathers) and significant body parts (fins, scales) of different animal groups (fish, amphibians, reptiles, birds and mammals, including pets)** • identify which animals are hot or cold-blooded	**Why does Falmouth have a castle?** **Knowledge** Children will be able to: • Recap - identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. • Recap - distinguish between an object and the material from which it is made • **describe the simple physical properties of a variety of everyday materials (hard/soft, stretchy/stiff, shiny/dull, waterproof/non-waterproof, opaque/see-through)** • compare and group together a variety of everyday materials on the basis of their simple physical properties	**What is the weather like today?** **Knowledge** Children will be able to: • **name all four seasons** • name different types of weather • observe and describe weather associated with the seasons observe changes across the four seasons • **discuss how day length varies (using vocabulary like longer and shorter, mid-summer and mid-winter)**

	Skills Children will be able to: • ask questions • name using scientific vocabulary • use my observations and ideas to suggest answers to questions • collect and record data to help answer questions – Investigation linked to the senses	**Skills** Children will be able to: • ask questions • name using scientific vocabulary • use my observations and ideas to suggest answers to questions	**Skills** Children will be able to: • ask questions • name using scientific vocabulary • use my observations and ideas to suggest answers to questions • use simple equipment to observe closely • identify and classify into groups • collect and record data to help answer questions	**Skills** Children will be able to: • ask questions • name using scientific vocabulary • use my observations and ideas to suggest answers to questions • use simple equipment to observe closely • identify and classify into groups • collect and record data to help answer questions • justify their ideas with evidence • review their initial ideas and discuss whether their opinion has changed	**Skills** Children will be able to: • ask questions • name using scientific vocabulary • use my observations and ideas to suggest answers to questions • use simple equipment to observe closely • identify and classify into groups • collect and record data to help answer questions • justify their ideas with evidence • review their initial ideas and discuss whether their opinion has changed	**Skills** Children will be able to: • ask questions • name using scientific vocabulary • use my observations and ideas to suggest answers to questions • use simple equipment to observe closely • collect and record data to help answer questions • justify their ideas with evidence
Year 2	**How would I survive on a desert island?** **Knowledge** Children will be able 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 • find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	**What made the fire of London great?** **Knowledge** Children will be able to: • **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.	**Why are Florence Nightingale and Rosa Parks remembered today?** **Knowledge** Children will be able to: • RHSE	**What makes Falmouth fabulous?** **Knowledge** Children will be able to: • observe and describe how seeds and bulbs grow into mature plants • find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	**What was it like to be a tin miner?** **Knowledge** Children will be able to: • notice that animals, including humans, have offspring which grow into adults • **explore and compare the differences between things that are living, dead, and things that have never been alive**	**How do animals survive in the rainforest?** **Knowledge** Children will be able to: • **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.**

	Skills Children will be able to: • ask simple questions and recognise that they can be answered in different ways including use of scientific language from the national curriculum • perform simple comparative tests • identify, group and classify • use his/her observations and ideas to suggest answers to questions noticing similarities, differences and patterns	Skills Children will be able to: • ask simple questions and recognise that they can be answered in different ways including use of scientific language from the national curriculum • perform simple comparative tests • use his/her observations and ideas to suggest answers to questions noticing similarities, differences and patterns • gather and record data to help in answering questions including from secondary sources of information	Skills Children will be able to: • ask simple questions and recognise that they can be answered in different ways including use of scientific language from the national curriculum	Skills Children will be able to: • ask simple questions and recognise that they can be answered in different ways including use of scientific language from the national curriculum • use simple equipment to observe closely including changes over time • perform simple comparative tests • use his/her observations and ideas to suggest answers to questions noticing similarities, differences and patterns • gather and record data to help in answering questions including from secondary sources of information	Skills Children will be able to: • ask simple questions and recognise that they can be answered in different ways including use of scientific language from the national curriculum • perform simple comparative tests • use his/her observations and ideas to suggest answers to questions noticing similarities, differences and patterns • gather and record data to help in answering questions including from secondary sources of information	Skills Children will be able to: • ask simple questions and recognise that they can be answered in different ways including use of scientific language from the national curriculum • identify, group and classify • use his/her observations and ideas to suggest answers to questions noticing similarities, differences and patterns • gather and record data to help in answering questions including from secondary sources of information
End of Key Stage 1 powerful knowledge	• identify, name, draw and label the basic parts of the human body • describe what common animals eat and classify them as carnivores, herbivores and omnivores • describe the body covering (fur, skin, feathers) and significant body parts (fins, scales) of different animal groups (fish, amphibians, reptiles, birds and mammals, including pets) • find out about and describe the basic needs of animals, including humans, for survival (water, food and air)	• Distinguish between an object and the material from which it is made • describe the simple physical properties of a variety of everyday materials (hard/soft, stretchy/stiff, shiny/dull, waterproof/non-waterproof, opaque/see-through)	• identify and describe the basic structure of a variety of common flowering plants	• 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 • 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.	• name all four seasons • discuss how day length varies (using vocabulary like longer and shorter, mid-summer and mid-winter)	

Year 3	**Where in the world is Africa? Knowledge** Children will be able to: • RHSE	**What was it like to be a Victorian child? Knowledge** Children will be able to: • **recognise 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)** • identify that animals, including humans, need the right types and amount of nutrition • **identify that humans and some other animals have skeletons and muscles for support, protection and movement**	**How is climate change affecting our weather? Knowledge** Children will be able to: • **recognise that they need light in order to see things and that dark is the absence of light** • recognise that light from the sun can be dangerous and that there are ways to protect their eyes • notice that light is reflected from surfaces • **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	**How did Stone Age people live? Knowledge** Children will be able to: • compare and group together different kinds of rocks on the basis of their appearance and simple physical properties • recognise that soils are made from rocks and organic matter • **describe in simple terms how fossils are formed when things that have lived are trapped within rock**	**Why is the Falmouth coast special? Knowledge** Children will be able to: • **identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers** • explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal • **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	**Why were Falmouth packet ships important? Knowledge** Children will be able to: • 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. • compare how things move on different surfaces
	Skills Children will be able to:	**Skills** Children will be able to: • ask relevant questions and use different types of scientific enquiries to answer them • gather, record, classify and present data in a variety of ways to help with answering questions • record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • use straightforward scientific evidence to answer questions or to support his/her findings	**Skills** Children will be able to: • ask relevant questions and use different types of scientific enquiries to answer them • set up simple practical enquiries, comparative and fair tests • gather, record, classify and present data in a variety of ways to help with answering questions • make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • identify differences, similarities or changes related to simple scientific ideas and processes • record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	**Skills** Children will be able to: • ask relevant questions and use different types of scientific enquiries to answer them • set up simple practical enquiries, comparative and fair tests • identify differences, similarities or changes related to simple scientific ideas and processes • record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • use straightforward scientific evidence to answer questions or to support his/her findings	**Skills** Children will be able to: • ask relevant questions and use different types of scientific enquiries to answer them • make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • identify differences, similarities or changes related to simple scientific ideas and processes • record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • use straightforward scientific evidence to answer questions or to support his/her findings	**Skills** Children will be able to: • ask relevant questions and use different types of scientific enquiries to answer them • set up simple practical enquiries, comparative and fair tests • gather, record, classify and present data in a variety of ways to help with answering questions • make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • identify differences, similarities or changes related to simple scientific ideas and processes • record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions

			• report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • use straightforward scientific evidence to answer questions or to support his/her findings			• use straightforward scientific evidence to answer questions or to support his/her findings
Year 4	**Why was Henry VIII famous? Knowledge** Children will be able to: • 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	**What is it like growing up in Europe? Knowledge** Children will be able to: • RSHE	**What did the Romans do for us? Knowledge** Children will be able to: • **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.	**What powers Earth? Knowledge** Children will be able to: • 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.**	**How did it feel to be evacuated? Knowledge** Children will be able to: • **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.**	**What makes Falmouth unique? Knowledge** Children will be able to: • **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. • construct and interpret a variety of food chains, identifying producers, predators and prey.

	Skills Children will be able to: • ask relevant questions and use different types of scientific enquiries to answer them • gather, record, classify and present data in a variety of ways to help with answering questions • record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • identify differences, similarities or changes related to simple scientific ideas and processes	**Skills** Children will be able to: •	**Skills** Children will be able to: • ask relevant questions and use different types of scientific enquiries to answer them • set up simple practical enquiries, comparative and fair tests • make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • gather, record, classify and present data in a variety of ways to help with answering questions • record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • use straightforward scientific evidence to answer questions or to support his/her findings	**Skills** Children will be able to: • ask relevant questions and use different types of scientific enquiries to answer them • set up simple practical enquiries, comparative and fair tests • record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • identify differences, similarities or changes related to simple scientific ideas and processes use straightforward scientific evidence to answer questions or to support his/her findings	**Skills** Children will be able to: • ask relevant questions and use different types of scientific enquiries to answer them • set up simple practical enquiries, comparative and fair tests • make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • gather, record, classify and present data in a variety of ways to help with answering questions • record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions identify differences, similarities or changes related to simple scientific ideas and processes	**Skills** Children will be able to: • ask relevant questions and use different types of scientific enquiries to answer them • make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • gather, record, classify and present data in a variety of ways to help with answering questions • record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • use straightforward scientific evidence to answer questions or to support his/her findings
Year 5	**Were all Vikings vicious?** **Knowledge** Split across term as appropriate. Children will be able 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**	**Why is the planet melting?** **Knowledge** Split across term as appropriate, ensuring complete coverage as required. Children will be able 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	**Who won the space race?** **Knowledge** Children will be able to: • **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**	**Why is London an important city?** **Knowledge** Children will be able to: • describe the changes as humans develop to old age (RSHE)	**How did the Greeks change the world?** **Knowledge** Children will be able to: • **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.	**How do forces work?** **Knowledge** Children will be able to: • **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

	• 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.**	• 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.	**movement of the sun across the sky.**			smaller force to have a greater effect.
	Skills Children will be able to: • plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • record data and results of increasing complexity, using scientific diagrams and labels, classification keys, tables, scatter graphs, and bar and line graphs identify scientific evidence that has been used to support o refute ideas or arguments	**Skills** Children will be able to: • plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • record data and results of increasing complexity, using scientific diagrams and labels, classification keys, tables, scatter graphs, and bar and line graphs • identify scientific evidence that has been used to support o refute ideas or arguments	**Skills** Children will be able to: • plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • record data and results of increasing complexity, using scientific diagrams and labels, classification keys, tables, scatter graphs, and bar and line graphs • report and present 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	**Skills** Children will be able to: • ask questions • name using scientific vocabulary • use my observations and ideas to suggest answers to questions (Year 1 science skills but relevant to SRE)	**Skills** Children will be able to: • record data and results of increasing complexity, using scientific diagrams and labels, classification keys, tables, scatter graphs, and bar and line graphs • report and present 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 • identify scientific evidence that has been used to support or refute ideas or arguments	**Skills** Children will be able to: • plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • record data and results of increasing complexity, using scientific diagrams and labels, classification keys, tables, scatter graphs, and bar and line graphs • use test results to make predictions to set up further comparative and fair tests • report and present 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

						• identify scientific evidence that has been used to support or refute ideas or arguments
Year 6	**Can you find your way home?** **Knowledge** Children will be able to: • **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.	**Why did the world go to war?** **Knowledge** Children will be able to: • **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.	**What did the Egyptians teach us?** **Knowledge** Children will be able to: • **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	**Are rainforests important?** **Knowledge** Children will be able to: • **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.**	**What legacy did the Celts leave in Cornwall?** **Knowledge** Children will be able to: • **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.	**Why does the Earth shake and shatter?** **Knowledge** Children will be able to: • RSHE
	Skills Children will be able to: • Plan different types of scientific enquiries to answer their own or others' questions, including recognising and controlling variables where necessary • Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • Record data and results of increasing complexity using	**Skills** Children will be able to: • Plan different types of scientific enquiries to answer their own or others' questions, including recognising and controlling variables where necessary • Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs	**Skills** Children will be able to: • Plan different types of scientific enquiries to answer their own or others' questions, including recognising and controlling variables where necessary • Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • Record data and results of increasing complexity using	**Skills** Children will be able to: • Plan different types of scientific enquiries to answer their own or others' questions, including recognising and controlling variables where necessary • Identify scientific evidence that has been used to support or refute ideas or arguments • Describe and evaluate their own and other people's scientific ideas related to topics in the national curriculum (including ideas	**Skills** Children will be able to: • Report and present 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 • Identify scientific evidence that has been used to support or refute ideas or arguments	**Skills** Children will be able to: • Find things out using a wide range of secondary sources of information • Use appropriate scientific language and ideas from the national curriculum to explain, evaluate and communicate his/her methods and findings

	• scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • Use test results to make predictions to set up further comparative and fair tests • Identify scientific evidence that has been used to support or refute ideas or arguments • Use appropriate scientific language and ideas from the national curriculum to explain, evaluate and communicate his/her methods and findings	• Use test results to make predictions to set up further comparative and fair tests • Report and present 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 • Identify scientific evidence that has been used to support or refute ideas or arguments • Use appropriate scientific language and ideas from the national curriculum to explain, evaluate and communicate his/her methods and findings	• scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • Use test results to make predictions to set up further comparative and fair tests • Report and present 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 • Identify scientific evidence that has been used to support or refute ideas or arguments • Find things out using a wide range of secondary sources of information • Use appropriate scientific language and ideas from the national curriculum to explain, evaluate and communicate his/her methods and findings	that have changed over time), using evidence from a range of sources • Group and classify things and recognise patterns • Find things out using a wide range of secondary sources of information • Use appropriate scientific language and ideas from the national curriculum to explain, evaluate and communicate his/her methods and findings	• Describe and evaluate their own and other people's scientific ideas related to topics in the national curriculum (including ideas that have changed over time), using evidence from a range of sources • Group and classify things and recognise patterns • Find things out using a wide range of secondary sources of information • Use appropriate scientific language and ideas from the national curriculum to explain, evaluate and communicate his/her methods and findings	
End of Key Stage 2 powerful knowledge	• recognise 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) • identify that humans and some other animals have skeletons and muscles for support, protection and movement • identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood	• recognise that they need light in order to see things and that dark is the absence of light • recognise that shadows are formed when the light from a light source is blocked by an opaque object • recognise that light appears to travel in straight lines • 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	• 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 • 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	• 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 • use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	• 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	• describe in simple terms how fossils are formed when things that have lived are trapped within rock • 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	• observe how magnets attract or repel each other and attract some materials and not others • describe magnets as having two poles • identify how sounds are made, associating some of them with something vibrating • recognise that vibrations from sounds travel through a medium to the ear • 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	• recognise that living things can be grouped in a variety of ways • describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird • 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	• construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers • 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

			burning and the action of acid on bicarbonate of soda.			and that adaptation may lead to evolution.	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. • 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		