

	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
EYFS	???	???	???	???	???	???
	???	???	???	???	???	???

**Working scientifically**  
**Statutory requirements**  
 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.  
**Notes and guidance (non-statutory)**  
 Pupils in years 1 and 2 should explore the world around them and raise their own questions. They should experience different types of scientific enquiries, including practical activities, and begin to recognise ways in which they might answer scientific questions. They should use simple features to compare objects, materials and living things and, with help, decide how to sort and group them, observe changes over time, and, with guidance, they should begin to notice patterns and relationships. They should ask people questions and use simple secondary sources to find answers. They should use simple measurements and equipment (for example, hand lenses, egg timers) to gather data, carry out simple tests, record simple data, and talk about what they have found out and how they found it out. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language. These opportunities for working scientifically should be provided across years 1 and 2 so that the expectations in the programme of study can be met by the end of year 2. Pupils are not expected to cover each aspect for every area of study.

**Geography skills and fieldwork**  
 \* use world maps, atlases and globes to identify the United Kingdom and its counties, as well as the countries, continents and oceans studied at the key stage  
 \* use simple compass directions (North, South, East and West) and locational and directional language (for example, near and far; left and right), to describe the location of features and routes on a map.  
 \* use aerial photographs and plan perspectives to recognise landmarks and basic human and physical features; devise a simple map; and use and construct basic symbols in a key  
 \* use simple fieldwork and observational skills to study the geography of their school and its grounds and the key human and physical features of its surrounding environment.

**History**  
 Pupils should develop an awareness do the past, using common words and phrases relating to the passing of time. They should know where the people and events they study fit within a chronological framework and identify similarities and differences between ways of life in different periods. They should use a wide vocabulary of everyday historical terms. They should ask and answer questions, choosing and using parts of stories and other sources to show that they know and understand key features of events. They should understand some of the ways in which we find out about the past and identify different ways in which it is represented.

**Physical Education**  
 Pupils should develop fundamental movement skills, become increasingly competent and confident and access a broad range of opportunities to extend their ability, balance and coordination, individually and with others. They should be able to engage in competitive (both against self and against others) and co-operative physical activities, in a range of increasingly challenging situations.  
 Pupils should be taught to:  
 \* master basic movements including running, jumping, throwing and catching, as well as developing balance, agility and co-ordination, and begin to apply these in a range of activities  
 \* participate in team games, developing simple tactics for attacking and defending  
 \* perform dances using simple movement patterns.

**Computing**  
 Pupils should be taught to:  
 \* understand what algorithms are; how they are implemented as programs on digital devices; and what programs execute by following precise and unambiguous instructions  
 \* create and debug simple programs  
 \* use logical reasoning to predict the behaviour of simple programs  
 \* use technology purposefully to create, organise, store, manipulate and retrieve digital content  
 \* recognise common uses of information technology beyond school  
 \* use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

**Music**  
 Pupils should be taught to:  
 \* use their voices expressively and creatively by singing songs and speaking chants and rhymes  
 \* play tuned and untuned instruments musically  
 \* listen with concentration and understanding to a range of high-quality live and recorded music  
 \* experiment with, create, select and combine sounds using the inter-related dimensions of music.

**Art and Design**  
 Pupils should be taught to:  
 \* use a range of materials creatively to design and make products  
 \* to use drawing, painting and sculpture to develop and share their ideas, experiences and imagination  
 to develop a wide range of art and design techniques in using colour, pattern, texture, line, shape, form and space  
 \* about the work of a range of artists, craft makers and designers, describe the differences and similarities between different practices and disciplines, and making links to their own work.

**Design and technology**  
 Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].  
 When designing and making, pupils should be taught to:  
**Design**  
 \* design purposeful, functional, appealing products for themselves and other users based on design criteria  
 \* generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.  
**Make**  
 \* select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing)  
 \* select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.  
**Evaluate**  
 \* explore and evaluate a range of existing products  
 \* evaluate their ideas and products against design criteria  
**Technical knowledge**  
 \* build structures, exploring how they can be made stronger, stiffer and more stable  
 \* explore and use mechanisms (for example, levers, sliders, wheels and axles), in their products.  
**Cooking and nutrition**  
 As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and later in life.  
 Pupils should be taught to:  
 \* use the basic principles of a healthy and varied diet to prepare dishes  
 \* understand where food comes from.

KS1

Year 1 & 2	Everyday Materials	Seasonal Changes / Wild Weather	Plants (Spring Focus)	Seasonal Changes / Wild Weather	Plants (Summer Focus)
	<p><b>Statutory requirements</b>                      Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>* distinguish between an object and the material from which it is made</li> <li>* identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</li> <li>* describe the simple physical properties of a variety of everyday materials</li> <li>* compare and group together a variety of everyday materials on the basis of their simple physical properties.</li> <li>* identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</li> <li>* find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</li> </ul> <p><i>Notes and guidance (non-statutory)</i>                      Pupils should explore, name, discuss and raise and answer questions about everyday materials so that they become familiar with the names of materials and properties such as: hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent; opaque/transparent. Pupils should explore and experiment with a wide variety of materials, not only those listed in the programme of study, but including for example: brick, paper, fabrics, elastic, foil. Pupils might work scientifically by: performing simple tests to explore questions, for example: 'What is the best material for an umbrella? ... for curtains? ... for a bookshelf? ... for a gymnast's mat?'                      Pupils should identify and discuss the uses of different everyday materials so that they become familiar with how some materials are used for more than one thing (metal can be used for cans, cars and table legs; wood can be used for matches, floors, and telegraph poles) or different materials are used for the same thing (spoons can be made from plastic, wood, metal, but not normally from glass). They should think about the properties of materials that make them suitable or unsuitable for particular purposes and they should be encouraged to think about unusual and creative uses for everyday materials. Pupils might find out about people who have developed useful new materials, for example John Dunlop, Charles Macintosh or John McAdam. Pupils might work scientifically by: comparing the uses of everyday materials in and around the school with materials found in other places (at home, the journey to school, on visits, and in stories, rhymes and songs); observing closely, identifying and classifying the uses of different materials, and recording their observations.</p>	<p><b>Statutory requirements</b>                      Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>* observe changes across the four seasons</li> <li>* observe and describe weather associated with the seasons and how day length varies.</li> </ul> <p><i>Notes and guidance (non-statutory)</i>                      Pupils should observe and talk about changes in the weather and the seasons.                      Note: Pupils should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses.                      Pupils might work scientifically by: making tables and charts about the weather; and making displays of what happens in the world around them, including day length, as the seasons change.</p>	<p><b>Statutory requirements</b>                      Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>* identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</li> <li>* identify and describe the basic structure of a variety of common flowering plants, including trees.</li> <li>* observe and describe how seeds and bulbs grow into mature plants</li> <li>* find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</li> </ul> <p><i>Notes and guidance (non-statutory)</i>                      Pupils should use the local environment throughout the year to explore and answer questions about plants growing in their habitat. Where possible, they should observe the growth of flowers and vegetables that they have planted. They should become familiar with common names of flowers, examples of deciduous and evergreen trees, and plant structures (including leaves, flowers (blossom), petals, fruit, roots, bulbs, seed, trunk, branches, stem). Pupils might work scientifically by: observing closely, perhaps using magnifying glasses, and comparing and contrasting familiar plants, describing how they were able to identify and group them, and drawing diagrams showing the parts of different plants including trees. Pupils might keep records of how plants have changed over time, for example the leaves falling off trees and buds opening; and compare and contrast what they have found out about different plants.                      Pupils should use the local environment throughout the year to observe how different plants grow. Pupils should be introduced to the requirements of plants for germination, growth and survival, as well as to the processes of reproduction and growth in plants.                      Note: Seeds and bulbs need water to grow but most do not need light; seeds and bulbs have a store of food inside them. Pupils might work scientifically by: observing and recording, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb, or observing similar plants at different stages of growth; setting up a comparative test to show that plants need light and water to stay healthy.</p>	<p><b>Statutory requirements</b>                      Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>* observe changes across the four seasons</li> <li>* observe and describe weather associated with the seasons and how day length varies.</li> </ul> <p><i>Notes and guidance (non-statutory)</i>                      Pupils should observe and talk about changes in the weather and the seasons.                      Note: Pupils should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses.                      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	<p><b>The Great Fire of London</b></p>	<p><b>Our Local Area</b></p>	<p><b>The Four Seasons &amp; Weather Patterns</b></p>		<p><b>Within Living Memory</b></p>
	<p>* events beyond living memory that are significant nationally or globally (for example, the Great Fire of London, the first aeroplane flight or events commemorated through festivals or anniversaries)</p>	??	<p>* identify seasonal and daily weather patterns in the United Kingdom and the location of hot and cold areas of the world in relation to the Equator and the North and South Poles</p>		<p>* changes within living memory. Where appropriate, these should be used to reveal aspects of change in national life</p>

**Geography**  
 \* use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied  
 \* use the eight points of a compass, found and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world  
 \* use fieldwork to observe, measure, record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies.

KS2	<p><b>History</b> Pupils should continue to develop a chronologically secure knowledge and understanding of British, local and world history, establishing clear narratives within and across the periods they study. They should note connections, contrasts and trends over time and develop the appropriate use of historical terms. They should regularly address and sometimes devise historically valid questions about change, cause, similarity and difference, and significance. They should construct informed responses that involve thoughtful selection and organisation of relevant historical information. They should understand how our knowledge of the past is constructed from a range of sources.</p>				
	<p><b>Physical Education</b> Pupils should continue to apply and develop a broader range of skills, learning how to use them in different ways and to link them to make actions and sequences of movement. They should enjoy communicating, collaborating and competing with each other. They should develop an understanding of how to improve in different physical activities and sports and learn how to evaluate and recognise their own success. Pupils should be taught to: * use running, jumping, throwing and catching in isolation and in combination * play competitive games, modified where appropriate [for example, badminton, basketball, cricket, football, hockey, netball, rounders and tennis], and apply basic principles suitable for attacking and defending * develop flexibility, strength, technique, control and balance [for example, through athletics and gymnastics] * perform dances using a range of movement patterns * take part in outdoor and adventurous activity challenges both individually and within a team * compare their performances with previous ones and demonstrate improvement to achieve their personal best.</p>				
	<p><b>Computing</b> Pupils should be taught to: * design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts * use sequence, selection, and repetition in programs; work with variables and various forms of input and output * use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs * understand computer networks including the Internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration * use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content * select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information * use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>				
	<p><b>Music</b> Pupils should be taught to sing and play musically with increasing confidence and control. They should develop an understanding of musical composition, organising and manipulating ideas within musical structures and reproducing sounds from aural memory. Pupils should be taught to: * play and perform in solo and ensemble contexts, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression. * improvise and compose music for a range of purposes using the inter-related dimensions of music * listen with attention to detail and recall sounds with increasing aural memory * use and understand staff and other musical notations * appreciate and understand a wide range of high-quality live and recorded music drawn from different traditions and from great composers and musicians * develop an understanding of the history of music.</p>				
	<p><b>Art</b> Pupils should be taught to develop their techniques, including their control and their use of materials, with creativity, experimentation and an increasing awareness of different kinds of art, craft and design. Pupils should be taught to: * create sketch books to record their observations and use them to review and revisit ideas * to improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials [for example, pencil, charcoal, paint, clay] * about great artists, architects and designers in history.</p>				
	<p><b>Design and technology</b> Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. When designing and making, pupils should be taught to: <b>Design</b> * use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups * generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design <b>Make</b> * select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately * select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities <b>Evaluate</b> * investigate and analyse a range of existing products * evaluate their ideas and products against their own design criteria and consider the views of others to improve their work * understand how key events and individuals in design and technology have helped shape the world <b>Technical knowledge</b> * apply their understanding of how to strengthen, stiffen and reinforce more complex structures * understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] * understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] * apply their understanding of computing to program, monitor and control their products <b>Cooking and nutrition</b> As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and later in life. Pupils should be taught to: * understand and apply the principles of a healthy varied diet * prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques * understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p>				
	<p><b>Languages</b> Teaching may be of any modern or ancient foreign language and should focus on enabling pupils to make substantial progress in one language. The teaching should provide an appropriate balance of spoken and written language and should lay the foundations for further foreign language teaching at key stage 3. It should enable pupils to understand and communicate ideas, facts and feelings in speech and writing, focused on familiar and routine matters, using their knowledge of phonology, grammatical structures and vocabulary. The focus of study in modern languages will be on practical communication. If an ancient language is chosen the focus will be to provide a linguistic foundation for reading comprehension and an appreciation of classical civilisation. Pupils studying ancient languages may take part in simple oral exchanges, while discussion of what they read will be conducted in English. A linguistic foundation in ancient languages may support the study of modern languages at key stage 3. Pupils should be taught to: * listen attentively to spoken language and show understanding by joining in and responding * explore the patterns and sounds of language through songs and rhymes and link the spelling, sound and meaning of words * engage in conversations, ask and answer questions; express opinions and respond to those of others; seek clarification and help* * speak in sentences, using familiar vocabulary, phrases and basic language structures * develop accurate pronunciation and intonation so that others understand when they are reading aloud or using familiar words and phrases* * present ideas and information orally to a range of audiences* * read carefully and show understanding of words, phrases and simple writing * appreciate stories, songs, poems and rhymes in the language * broaden their vocabulary and develop their ability to understand new words that are introduced into familiar written material, including through using a dictionary * write phrases from memory, and adapt these to create new sentences, to express ideas clearly * describe people, places, things and actions orally* and in writing * understand basic grammar appropriate to the language being studied, including (where relevant): feminine, masculine and neuter forms and the conjugation of high-frequency verbs; key features and patterns of the language; how to apply these, for instance, to build sentences; and how these differ from or are similar to English. The starred (*) content above will not be applicable to ancient languages.</p>				
	<p><b>Science</b> <b>Statutory requirements</b> 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. <b>Notes and guidance (non-statutory)</b> Pupils in years 3 and 4 should be given a range of scientific experiences to enable them to raise their own questions about the world around them. They should start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions; recognise when a simple fair test is necessary and help to decide how to set it up; talk about criteria for grouping, sorting and classifying; and use simple keys. They should begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. They should 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. <b>Notes and guidance (non-statutory)</b> They should learn how to use new equipment, such as data loggers, appropriately. They should collect data from their own observations and measurements, using notes, simple tables and standard units, and help to make decisions about how to record and analyse this data. With help, pupils should look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. With support, they should identify new questions arising from the data, making predictions for new values within or beyond the data they have collected and finding ways of improving what they have already done. They should also recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations. Pupils should use relevant scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences. These opportunities for working scientifically should be provided across years 3 and 4 so that the expectations in the programme of study can be met by the end of year 4. Pupils are not expected to cover each aspect for every area of study.</p>				
	<p><b>Physical Education</b> <b>Swimming and water safety</b> All schools must provide swimming instruction either in key stage 1 or key stage 2. In particular, pupils should be taught to: * swim competently, confidently and proficiently over a distance of at least 25 metres. * use a range of strokes effectively [for example, front crawl, back stroke and breaststroke] * perform safe self-rescue in different water-based situations.</p>				
	Living Things (Y4)		States of Matter (Y4)		Electricity (Y4)
					Light (Y3)

Year 3 & 4	<p><b>Statutory requirements</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>* recognise that living things can be grouped in a variety of ways</li> <li>* explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</li> <li>* recognise that environments can change and that this can sometimes pose dangers to living things.</li> </ul> <p><b>Notes and guidance (non-statutory)</b> Pupils should use the local environment throughout the year to raise and answer questions that help them to identify and study plants and animals in their habitat. They should identify how the habitat changes throughout the year. Pupils should explore possible ways of grouping a wide selection of living things that include animals and flowering plants and non-flowering plants. Pupils could begin to put vertebrate animals into groups such as fish, amphibians, reptiles, birds, and mammals; and invertebrates into snails and slugs, worms, spiders, and insects.</p> <p><b>Note:</b> Plants can be grouped into categories such as flowering plants (including grasses) and non-flowering plants, such as ferns and mosses. Pupils should explore examples of human impact (both positive and negative) on environments, for example, the positive effects of nature reserves, ecologically planned parks, or garden ponds, and the negative effects of population and development, litter or deforestation. Pupils might work scientifically by: using and making simple guides or keys to explore and identify local plants and animals; making a guide to local living things; raising and answering questions based on their observations of animals and what they have found out about other animals that they have researched.</p>	<p><b>Statutory requirements</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>* compare and group materials together, according to whether they are solids, liquids or gases</li> <li>* observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)</li> <li>* identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</li> </ul> <p><b>Notes and guidance (non-statutory)</b> Pupils should explore a variety of everyday materials and develop simple descriptions of the states of matter (solids hold their shape; liquids form a pool not a pile; gases escape from an unsealed container). Pupils should observe water as a solid, a liquid and a gas and should note the changes to water when it is heated or cooled.</p> <p><b>Note:</b> Teachers should avoid using materials where heating is associated with chemical change, for example, through baking or burning. Pupils might work scientifically by: grouping and classifying a variety of different materials; exploring the effect of temperature on substances such as chocolate, butter, cream (for example, to make food such as chocolate crispy cakes and ice-cream for a party). They could research the temperature at which materials change state, for example, when iron melts or when oxygen condenses into a liquid. They might observe and record evaporation over a period of time, for example, a puddle in the playground or washing on a line, and investigate the effect of temperature on washing drying or snowmen melting.</p>	<p><b>Statutory requirements</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>* identify common appliances that run on electricity</li> <li>* identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery</li> <li>* recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</li> <li>* recognise some common conductors and insulators, and associate metals with being good conductors.</li> </ul> <p><b>Notes and guidance (non-statutory)</b> Pupils should construct simple series circuits, trying different components, for example, bulbs, buzzers and motors, and including switches, and use their circuits to create simple devices. Pupils should draw the circuit as a pictorial representation, not necessarily using conventional circuit symbols at this stage; these will be introduced in year 6.</p> <p><b>Note:</b> Pupils might use the terms current and voltage, but these should not be introduced or defined formally at this stage. Pupils should be taught about precautions for working safely with electricity. Pupils might work scientifically by: observing patterns, for example, that bulbs get brighter if more cells are added, that metals tend to be conductors of electricity, and that some materials can and some cannot be used to connect across a gap in a circuit.</p>	<p><b>Statutory requirements</b> <b>Pupils should be taught to:</b></p> <ul style="list-style-type: none"> <li>* identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</li> <li>* explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant</li> <li>* investigate the way in which water is transported within plants</li> <li>* explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</li> </ul> <p><b>Notes and guidance (non-statutory)</b> Pupils should be introduced to the relationship between structure and function: the idea that every part has a job to do. They should explore questions that focus on the role of the roots and stem in nutrition and support, leaves for nutrition and flowers for reproduction.</p> <p><b>Note:</b> Pupils can be introduced to the idea that plants can make their own food, but at this stage they do not need to understand how this happens. Pupils might work scientifically by: comparing the effect of different factors on plant growth, for example, the amount of light, the amount of fertiliser; discovering how seeds are formed by observing the different stages of plant life cycles over a period of time; looking for patterns in the structure of fruits that relate to how the seeds are dispersed. They might observe how water is transported in plants, for example, by putting cut, white carnations into coloured water and observing how water travels up the stem to the flowers.</p>	<p><b>Statutory requirements</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>* recognise that they need light in order to see things and that dark is the absence of light</li> <li>* notice that light is reflected from surfaces</li> <li>* recognise that light from the sun can be dangerous and that there are ways to protect their eyes</li> <li>* recognise that shadows are formed when the light from a light source is blocked by an opaque object</li> <li>* find patterns in the way that the size of shadows change.</li> </ul> <p><b>Notes and guidance (non-statutory)</b> Pupils should explore what happens when light reflects off a mirror or other reflective surfaces, including playing mirror games to help them to answer questions about how light behaves. They should think about why it is important to protect their eyes from bright lights. They should look for, and measure, shadows, and find out how they are formed and what might cause the shadows to change.</p> <p><b>Note:</b> Pupils should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses. Pupils might work scientifically by: looking for patterns in what happens to shadows when the light source moves or the distance between the light source and the object changes.</p>	Egyptians
	* the achievements of the earliest civilizations – an overview of where and when the first civilizations appeared and a depth study of one of the following: Ancient Sumer; The Indus Valley; Ancient Egypt; The Shang Dynasty of Ancient China	* understand geographical similarities and differences through the study of human and physical geography of a region of the United Kingdom, a region in a European country, and a region within North or South America	* locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities		* Ancient Greece – a study of Greek life and achievements and their influence on the western world	Ancient Greeks
Year 5 & 6	<p><b>Science</b></p> <p><b>Statutory requirements</b> During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> <li>* planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</li> <li>* taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</li> <li>* recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</li> <li>* using test results to make predictions to set up further comparative and fair tests</li> <li>* reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations</li> <li>* identifying scientific evidence that has been used to support or refute ideas or arguments.</li> </ul> <p><b>Notes and guidance (non-statutory)</b> Pupils in years 5 and 6 should use their science experiences to: explore ideas and raise different kinds of questions; select and plan the most appropriate type of scientific enquiry to use to answer scientific questions; recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why. They should 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. They should make their own decisions about what observations to make, what measurements to use and how long to make them for, and whether to repeat them; choose the most appropriate equipment to make measurements and explain how to use it accurately. They should decide how to record data from a choice of familiar approaches; look for different causal relationships in their data and identify evidence that refutes or supports their ideas. They should use their results to identify when further tests and observations might be needed; recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact. They should use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas and should talk about how scientific ideas have developed over time.</p> <p><b>Notes and guidance (non-statutory)</b> These opportunities for working scientifically should be provided across years 5 and 6 so that the expectations in the programme of study can be met by the end of year 6. Pupils are not expected to cover each aspect for every area of study.</p>					
Year 5 & 6	<p><b>Light (Y5)</b></p> <p><b>Statutory requirements</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>* recognise that light appears to travel in straight lines</li> <li>* 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</li> <li>* 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</li> <li>* use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</li> </ul> <p><b>Notes and guidance (non-statutory)</b> Pupils should build on the work on light in year 3, exploring the way that light behaves, including light sources, reflection and shadows. They should talk about what happens and make predictions. Pupils might work scientifically by: deciding where to place rear-view mirrors on cars; designing and making a periscope and using the idea that light appears to travel in straight lines to explain how it works. They might investigate the relationship between light sources, objects and shadows by using shadow puppets. They could extend their experience of light by looking a range of phenomena including rainbows, colours on soap bubbles, objects looking bent in water and coloured filters (they do not need to explain why these phenomena occur).</p>	<p><b>Materials (Y5)</b></p> <p><b>Statutory requirements</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>* compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets</li> <li>* know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</li> <li>* use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</li> <li>* give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</li> <li>* demonstrate that dissolving, mixing and changes of state are reversible changes</li> <li>* explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.</li> </ul> <p><b>Notes and guidance (non-statutory)</b> Pupils should build a more systematic understanding of materials by exploring and comparing the properties of a broad range of materials, including relating these to what they learnt about magnetism in year 3 and about electricity in year 4. They should explore reversible changes, including, evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes. Pupils should explore changes that are difficult to reverse, for example, burning, rusting and other reactions, for example, vinegar with bicarbonate of soda. They should find out about how chemists create new materials, for example, Spencer Silver, who invented the glue for sticky notes or Ruth Benetto, who invented wrinkle-free cotton.</p> <p><b>Note:</b> Pupils are not required to make quantitative measurements about conductivity and insulation at this stage. It is sufficient for them to observe that some conductors will produce a brighter bulb in a circuit than others and that some materials will feel hotter than others when a heat source is placed against them.</p> <p><b>Safety guidelines should be followed when burning materials. Pupils might work scientifically by: carrying out tests to answer questions, for example, which material would be the most effective for making a simple jacket for</b></p>	<p><b>Animals inc. Humans (exercise &amp; heart Y5)</b></p> <p><b>Statutory requirements</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>* identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</li> <li>* recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</li> <li>* describe the ways in which nutrients and water are transported within animals, including humans.</li> </ul> <p><b>Notes and guidance (non-statutory)</b> Pupils should build on their learning from years 3 and 4 about the main body parts and internal organs (skeletal, muscular and digestive system) to explore and answer questions that help them to understand how the circulatory system enables the body to function. Pupils should learn how to keep their bodies healthy and how their bodies might be damaged – including how some drugs and other substances can be harmful to the human body.</p> <p>Pupils might work scientifically by: exploring the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health.</p>	<p><b>Living Things &amp; Habitats Classification (Y6)</b></p> <p><b>Statutory requirements</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>* 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</li> <li>* give reasons for classifying plants and animals based on specific characteristics.</li> </ul> <p><b>Notes and guidance (non-statutory)</b> Pupils should build on their learning about grouping living things in year 4 by looking at the classification system in more detail. They should be introduced to the idea that broad groupings, such as micro-organisms, plants and animals can be subdivided. Through direct observations where possible, they should classify animals into commonly found invertebrates (such as insects, spiders, snails, worms) and vertebrates (fish, amphibians, reptiles, birds and mammals). They should discuss reasons why living things are placed in one group and not another. Pupils might find out about the significance of the work of scientists such as Carl Linnaeus, a pioneer of classification. Pupils might work scientifically by: using classification systems and keys to identify some animals and plants in the immediate environment. They could research unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system.</p>	<p><b>Living Things &amp; Habitats (flower plants Y5)</b></p> <p><b>Statutory requirements</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>* describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</li> <li>* describe the life process of reproduction in some plants and animals.</li> </ul> <p><b>Notes and guidance (non-statutory)</b> Pupils should study and raise questions about their local environment throughout the year. They should observe life-cycle changes in a variety of living things, for example, plants in the vegetable garden or flower border, and animals in the local environment. They should find out about the work of naturalists and animal behaviourists, for example, David Attenborough and Jane Goodall. Pupils should find out about different types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals. Pupils might work scientifically by: observing and comparing the life cycles of plants and animals in their local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times), asking pertinent questions and suggesting reasons for similarities and differences. They might try to grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs. They might observe changes in an animal over a period of time (for example, by hatching and rearing chicks), comparing how different animals reproduce and grow.</p>	<p><b>Animals inc. Humans (lifecycle, babies, growth Y5)</b></p> <p><b>Statutory requirements</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>* describe the changes as humans develop to old age.</li> </ul> <p><b>Notes and guidance (non-statutory)</b> Pupils should draw a timeline to indicate stages in the growth and development of humans. They should learn about the changes experienced in puberty. Pupils could work scientifically by researching the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows.</p>
	* a local history study <b>Examples (non-statutory)</b> * a depth study linked to one of the British areas of study listed above * a study over time tracing how several aspects of national history are reflected in the locality (this can go beyond 1066) * a study of an aspect of history or a site dating from a period beyond 1066 that is significant in the locality.		* a non-European society that provides contrasts with British history – one study chosen from: early Islamic civilisation, including a study of Baghdad c. AD 900; Mayan civilisation c. AD 900; Benin (West Africa) c. AD 900-1300.	History of W.Africa/Benin	* describe and understand key aspects of: * physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night)	Extreme Earth