

Programmes of Study Objectives

	Objectives to be covered during each KeyStage	
<u>Programme of Study</u>	<u>KS1</u>	<u>KS2</u>
<u>Art</u>	<p>□to use a range of materials creatively to design and make products</p> <p>to use drawing, painting and sculpture to develop and share their ideas, experiences and imagination</p> <p>to develop a wide range of art and design techniques in using colour, pattern, texture, line, shape, form and space</p> <p>about the work of a range of artists, craft makers and designers, describing the differences and similarities between different practices and disciplines, and making links to their own work.</p>	<p>□to create sketch books to record their observations and use them to review and revisit ideas</p> <p>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]</p> <p>about great artists, architects and designers in history</p>
<u>Computing</u>	<p>understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</p> <p>create and debug simple programs</p> <p>use logical reasoning to predict the behaviour of simple programs</p> <p>use technology purposefully to create, organise, store, manipulate and retrieve digital content</p> <p>recognise common uses of information technology beyond school</p> <p>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.</p>	<p>design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</p> <p>use sequence, selection, and repetition in programs; work with variables and various forms of input and output</p> <p>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</p> <p>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</p> <p>use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</p> <p>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</p> <p>use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>
<u>Design technology</u>	<p>Design</p> <p>design purposeful, functional, appealing products for themselves and other users based on design criteria</p> <p>generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>Make</p> <p>select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</p> <p>select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</p> <p>Evaluate</p> <p>explore and evaluate a range of existing products</p> <p>evaluate their ideas and products against design criteria</p> <p>Technical knowledge</p> <p>build structures, exploring how they can be made stronger, stiffer and more stable</p> <p>explore and use mechanisms [for example, levers, sliders, wheels and axles], in their</p> <p>*Cooking and nutrition</p> <p>use the basic principles of a healthy and varied diet to prepare dishes</p> <p>understand where food comes from.</p>	<p>Design</p> <p>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</p> <p>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>Make</p> <p>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <p>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</p> <p>Evaluate</p> <p>investigate and analyse a range of existing products</p> <p>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>understand how key events and individuals in design and technology have helped shape the world</p> <p>Technical knowledge</p> <p>apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</p> <p>understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p> <p>apply their understanding of computing to program, monitor and control their products.</p> <p>*Cooking and nutrition</p> <p>understand and apply the principles of a healthy and varied diet</p> <p>prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>understand seasonality, and know where and how a variety of ingredients are grown,</p>

		reared, caught and processed.
<p><u>Geography</u></p>	<p>Locational knowledge</p> <p>name and locate the world's seven continents and five oceans</p> <p>name, locate and identify characteristics of the four countries and capital cities of the United Kingdom and its surrounding seas</p> <p>Place knowledge</p> <p>understand geographical similarities and differences through studying the human and physical geography of a small area of the United Kingdom, and of a small area in a contrasting non-European country</p> <p>Human and physical geography</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>use basic geographical vocabulary to refer to:</p> <p>key physical features, including: beach, cliff, coast, forest, hill, mountain, sea, ocean, river, soil, valley, vegetation, season and weather</p> <p>key human features, including: city, town, village, factory, farm, house, office, port, harbour and shop</p> <p>Geographical skills and fieldwork</p> <p>use world maps, atlases and globes to identify the United Kingdom and its countries, as well as the countries, continents and oceans studied at this key stage</p> <p>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</p> <p>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</p> <p>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.</p>	<p>Locational knowledge</p> <p>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</p> <p>name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time</p> <p>identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night)</p> <p>Place knowledge</p> <p>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</p> <p>Human and physical geography</p> <p>describe and understand key aspects of:</p> <p>physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle</p> <p>human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water</p> <p>Geographical skills and fieldwork</p> <p>use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied</p> <p>use the eight points of a compass, four 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</p> <p>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.</p>
<p><u>History</u></p>	<p>changes within living memory. Where appropriate, these should be used to reveal aspects of change in national life</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>the lives of significant individuals in the past who have contributed to national and international achievements. Some should be used to compare aspects of life in different periods [for example, Elizabeth I and Queen Victoria, Christopher Columbus and Neil Armstrong, William Caxton and Tim Berners-Lee, Pieter Bruegel the Elder and LS Lowry, Rosa Parks and Emily Davison, Mary Seacole and/or Florence Nightingale and Edith Cavell]</p> <p>significant historical events, people and places in their own locality.</p>	<p><u>changes in Britain from the Stone Age to the Iron Age</u></p> <p>Examples (non-statutory) This could include:</p> <p>late Neolithic hunter-gatherers and early farmers, for example, Skara Brae Bronze Age religion, technology and travel, for example, Stonehenge Iron Age hill forts: tribal kingdoms, farming, art and culture</p> <p><u>the Roman Empire and its impact on Britain</u></p> <p>Examples (non-statutory) This could include:</p> <p>Julius Caesar's attempted invasion in 55-54 BC the Roman Empire by AD 42 and the power of its army successful invasion by Claudius and conquest, including Hadrian's Wall British resistance, for example, Boudica 'Romanisation' of Britain: sites such as Caerwent and the impact of technology, culture and beliefs, including early Christianity</p> <p><u>Britain's settlement by Anglo-Saxons and Scots</u></p> <p>Examples (non-statutory) This could include:</p>

		<p>Roman withdrawal from Britain in c. AD 410 and the fall of the western Roman Empire</p> <p>Scots invasions from Ireland to north Britain (now Scotland)</p> <p>Anglo-Saxon invasions, settlements and kingdoms: place names and village life</p> <p>Anglo-Saxon art and culture</p> <p>Christian conversion – Canterbury, Iona and Lindisfarne</p> <p><u>the Viking and Anglo-Saxon struggle for the Kingdom of England to the time of Edward the Confessor</u></p> <p>Examples (non-statutory) This could include:</p> <p>Viking raids and invasion</p> <p>resistance by Alfred the Great and Athelstan, first king of England</p> <p>further Viking invasions and Danegeld</p> <p>Anglo-Saxon laws and justice</p> <p>Edward the Confessor and his death in 1066</p> <p><u>a local history study</u></p> <p>Examples (non-statutory)</p> <p>a depth study linked to one of the British areas of study listed above</p> <p>a study over time tracing how several aspects of national history are reflected in the locality (this can go beyond 1066)</p> <p>a study of an aspect of history or a site dating from a period beyond 1066 that is significant in the locality.</p> <p><u>a study of an aspect or theme in British history that extends pupils' chronological knowledge beyond 1066</u></p> <p>Examples (non-statutory)</p> <p>the changing power of monarchs using case studies such as John, Anne and Victoria</p> <p>changes in an aspect of social history, such as crime and punishment from the Anglo-Saxons to the present or leisure and entertainment in the 20th Century</p> <p>the legacy of Greek or Roman culture (art, architecture or literature) on later periods in British history, including the present day</p> <p>a significant turning point in British history, for example, the first railways or the Battle of Britain</p> <p>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</p> <p>Ancient Greece – a study of Greek life and achievements and their influence on the western world</p> <p>a non-European society that provides contrasts with British history – one study chosen from: early Islamic civilization, including a study of Baghdad c. AD 900; Mayan civilization c. AD 900; Benin (West Africa) c. AD 900-1300.</p>
<p><u>Languages</u></p>	<p>N/A</p>	<p>listen attentively to spoken language and show understanding by joining in and responding</p> <p>explore the patterns and sounds of language through songs and rhymes and link the spelling, sound and meaning of words</p> <p>engage in conversations; ask and answer questions; express opinions and respond to those of others; seek clarification and help*</p> <p>speak in sentences, using familiar vocabulary, phrases and basic language structures</p> <p>develop accurate pronunciation and intonation so that others understand when they are reading aloud or using familiar words and phrases*</p> <p>present ideas and information orally to a range of audiences*</p> <p>read carefully and show understanding of words, phrases and simple writing</p> <p>appreciate stories, songs, poems and rhymes in the language</p> <p>broaden their vocabulary and develop their ability to understand new words that are introduced into familiar written material, including through using a dictionary</p> <p>write phrases from memory, and adapt these to create new sentences, to express ideas clearly</p> <p>describe people, places, things and actions orally* and in writing</p> <p>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.</p> <p>* indicates ancient languages</p>

<p><u>Music</u></p>	<p>use their voices expressively and creatively by singing songs and speaking chants and rhymes</p> <p>play tuned and untuned instruments musically</p> <p>listen with concentration and understanding to a range of high-quality live and recorded music</p> <p>experiment with, create, select and combine sounds using the inter-related dimensions of music.</p>	<p>play and perform in solo and ensemble contexts, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression</p> <p>improvise and compose music for a range of purposes using the inter-related dimensions of music</p> <p>listen with attention to detail and recall sounds with increasing aural memory</p> <p>use and understand staff and other musical notations</p> <p>appreciate and understand a wide range of high-quality live and recorded music drawn from different traditions and from great composers and musicians</p> <p>develop an understanding of the history of music.</p>
<p><u>Physical Education</u></p>	<p>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</p> <p>participate in team games, developing simple tactics for attacking and defending</p> <p>perform dances using simple movement patterns.</p>	<p>use running, jumping, throwing and catching in isolation and in combination</p> <p>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</p> <p>develop flexibility, strength, technique, control and balance [for example, through athletics and gymnastics]</p> <p>perform dances using a range of movement patterns</p> <p>take part in outdoor and adventurous activity challenges both individually and within a team</p> <p>compare their performances with previous ones and demonstrate improvement to achieve their personal best.</p> <p>Swimming and water safety All schools must provide swimming instruction either in key stage 1 or key stage 2.</p> <p>swim competently, confidently and proficiently over a distance of at least 25 metres</p> <p>use a range of strokes effectively [for example, front crawl, backstroke and breaststroke]</p> <p>perform safe self-rescue in different water-based situations.</p>
<p><u>Science</u></p>	<p>KEY STAGE 1 (YEARS 1 AND 2)- STATUTORY REQUIREMENTS</p> <p>asking simple questions and recognising that they can be answered in different ways</p> <p>observing closely, using simple equipment</p> <p>performing simple tests</p> <p>identifying and classifying</p> <p>using their observations and ideas to suggest answers to questions</p> <p>gathering and recording data to help in answering questions.</p> <p>YEAR 1 <u>Plants</u></p> <p>identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p>identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p><u>Animals including Humans</u></p> <p>identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> <p>identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> <p><u>Everyday Materials</u></p> <p>distinguish between an object and the material from which it is made</p> <p>identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</p> <p>describe the simple physical properties of a variety of everyday materials</p> <p>compare and group together a variety of everyday materials on the basis of their simple physical properties.</p> <p><u>Seasonal Changes</u></p> <p>observe changes across the four seasons</p> <p>observe and describe weather associated with the seasons and how day length varies.</p> <p>YEAR 2 <u>Living things and their habitats</u></p> <p>explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other</p> <p>identify and name a variety of plants and animals in their habitats, including micro-habitats</p> <p>describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p> <p><u>Plants</u></p> <p>observe and describe how seeds and bulbs grow into mature plants</p> <p>find out and describe how plants need water, light and a</p>	<p>LOWER KEY STAGE 2 (YEARS 3 AND 4)- STATUTORY REQUIREMENTS</p> <p>asking relevant questions and using different types of scientific enquiries to answer them</p> <p>setting up simple practical enquiries, comparative and fair tests</p> <p>making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <p>gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</p> <p>recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p> <p>reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</p> <p>using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>identifying differences, similarities or changes related to simple scientific ideas and processes</p> <p>using straightforward scientific evidence to answer questions or to support their findings.</p> <p>YEAR 3 <u>Plants</u></p> <p>identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <p>explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant</p> <p>investigate the way in which water is transported within plants</p> <p>explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p> <p><u>Animals including humans</u></p> <p>identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat</p> <p>identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p> <p><u>Rocks</u></p> <p>compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>describe in simple terms how fossils are formed when things that have lived are trapped within rock</p> <p>recognise that soils are made from rocks and organic matter.</p> <p><u>Light</u></p> <p>recognise that they need light in order to see things and that dark is the absence of light</p> <p>notice that light is reflected from surfaces</p> <p>recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>recognise that shadows are formed when the light from a light source is blocked by a solid object</p> <p>find patterns in the way that the size of shadows change.</p> <p><u>Forces and Magnets</u></p> <p>compare how things move on different surfaces</p> <p>notice that some forces need contact between two objects, but magnetic forces can act at a distance</p> <p>observe how magnets attract or repel each other and attract some materials and not others</p>

suitable temperature to grow and stay healthy.

Animals including humans

notice that animals, including humans, have offspring which grow into adults

find out about and describe the basic needs of animals, including humans, for survival (water, food and air)

describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.

Uses of everyday materials

identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses

find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

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.

YEAR 4

Animals including humans

describe the simple functions of the basic parts of the digestive system in humans

identify the different types of teeth in humans and their simple functions

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

States of Matter

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

observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)

identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

Sound

identify how sounds are made, associating some of them with something vibrating

recognise that vibrations from sounds travel through a medium to the ear

find patterns between the pitch of a sound and features of the object that produced it

find patterns between the volume of a sound and the strength of the vibrations that produced it

recognise that sounds get fainter as the distance from the sound source increases.

Electricity

identify common appliances that run on electricity

construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers

identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery

recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit

recognise some common conductors and insulators, and associate metals with being good conductors.

UPPER KEY STAGE 2 (YEARS 5 AND 6)- STATUTORY REQUIREMENTS

planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary

taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate

recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs

using test results to make predictions to set up further comparative and fair tests

reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations

identifying scientific evidence that has been used to support or refute ideas or arguments.

YEAR 5

Living things and their habitats

describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird

describe the life process of reproduction in some plants and animals.

Animals including humans

describe the changes as humans develop to old age.

Properties and changes of materials

compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets

know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution

use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating

give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic

demonstrate that dissolving, mixing and changes of state are reversible changes

explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

Earth and Space

describe the movement of the Earth, and other planets, relative to the Sun in the solar system

describe the movement of the Moon relative to the Earth

describe the Sun, Earth and Moon as approximately spherical bodies

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

Forces

explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object

identify the effects of air resistance, water resistance and friction, that act between moving surfaces

recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

YEAR 6

Living things and their habitat

describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals

give reasons for classifying plants and animals based on specific characteristics.

Animals including humans

		<p>identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</p> <p>recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</p> <p>describe the ways in which nutrients and water are transported within animals, including humans.</p> <p><u>Evolution and inheritance</u></p> <p>recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> <p>recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p> <p><u>Light</u></p> <p>recognise that light appears to travel in straight lines</p> <p>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</p> <p>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</p> <p>use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p> <p><u>Electricity</u></p> <p>associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit</p> <p>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</p> <p>use recognised symbols when representing a simple circuit in a diagram.</p>
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