



National Curriculum 2016

Skills Progression

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	SCIENCE	
Key stage 1	Year 1	Year 2
Coverage	<ul style="list-style-type: none"> Plants Animals including Humans Everyday Materials Seasonal changes 	<ul style="list-style-type: none"> Living Things and their Habitats Plants Animals including Humans Use of Everyday Materials
	<i>Full detail of the specified content for each of the headings within the Science are outlined fully in the Programme of Study below</i>	
Skills – Working Scientifically	<p>Through practical science methods, processes and skills should be developed aligned to the study content focusing upon:</p> <ul style="list-style-type: none"> Asking simple questions Observing closely, using some simple equipment Performing simple tests Identifying and classifying Using observations and ideas to suggest answers to questions Begin to make records of findings in appropriate forms to collect evidence to try to answer a question to say what they think might happen in some cases to say what their observations show, and whether it was what they expected; to draw simple conclusions and explain what they did 	<p>Through practical science methods, processes and skills should be developed aligned to the study content focusing upon:</p> <ul style="list-style-type: none"> Asking simple questions Observing closely, using some simple equipment Performing simple tests Identifying and classifying Using observations and ideas to suggest answers to questions Gathering and recording data to help in answering questions and consider presenting findings Start to consider the idea of fair testing to say what they think might happen to say whether their predictions were supported;

Subject:	SCIENCE	
Key stage 2	Year 3	Year 4
Coverage	<ul style="list-style-type: none"> • Plants • Animals including Humans • Rocks • Light • Forces and Magnets 	<ul style="list-style-type: none"> • Living things and their habitats • Animals including Humans • States of Matter • Sound • Electricity
	<i>Full detail of the specified content for each of the headings within the Science are outlined fully in the Programme of Study below</i>	
Skills - Working Scientifically	<p>Through practical science methods, processes and skills should be developed aligned to the study content focusing upon:</p> <ul style="list-style-type: none"> • Asking relevant questions • Setting up simple practical enquiries, comparative and fair tests • Making accurate measurements using standard units, using some equipment • Gathering, recording, classifying and presenting data in a variety of ways to help with answering questions • Recording findings using simple scientific language, drawings, labelled diagrams, 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 and suggest improvements • Identifying differences, similarities or changes related to simple scientific ideas and processes • Using straightforward scientific evidence to answer questions or to support their findings • to make generalisations and begin to identify simple patterns in results presented in tables 	<p>Through practical science methods, processes and skills should be developed aligned to the study content focusing upon:</p> <ul style="list-style-type: none"> • Asking relevant questions • Setting up simple practical enquiries, comparative and fair tests • Making accurate measurements using standard units, using a range of equipment • Gathering, recording, classifying and presenting data in a variety of ways to help with answering questions • Recording findings using scientific language, drawings, labelled diagrams, 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 and suggest improvements, new questions and predictions for setting up further tests • Identifying differences, similarities or changes related to simple scientific ideas and processes and consider patterns • Using straightforward scientific evidence to answer questions or to support their findings • to make measurements of temperature, time and force as well as measurements of length

Subject:	SCIENCE	
Key stage 2	Year 5	Year 6
Coverage	<ul style="list-style-type: none"> • Living things and their habitats • Animals including Humans • Properties and Changes of Materials • Earth and Space • Forces 	<ul style="list-style-type: none"> • Living things and their habitats • Animals including Humans • Evolution and Inheritance • Light • Electricity
	<i>Full detail of the specified content for each of the headings within the Science are outlined fully in the Programme of Study below</i>	
Skills – Working Scientifically	<p>Through practical science methods, processes and skills should be developed aligned to the study content focusing upon:</p> <ul style="list-style-type: none"> • Planning enquiries, including recognising and controlling variables where necessary • Taking measurements, using a range of scientific equipment, with increasing accuracy and precision • Recording data and results using scientific diagrams and labels, classification keys, tables, bar and line graphs and models • Reporting findings from enquiries, including oral and written explanations of results and conclusions • Presenting finding in written form, displays and other presentations • Using test results to make predictions to set up further comparative and fair tests • Using simple models to describe scientific ideas • Identifying scientific evidence that has been used to support or refute ideas or arguments • to measure pulse rate; 	<p>Through practical science methods, processes and skills should be developed aligned to the study content focusing upon:</p> <ul style="list-style-type: none"> • Planning enquiries, including recognising and controlling variables where necessary • Taking measurements, using a range of scientific equipment, with increasing accuracy and precision • Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs and models • Reporting findings from enquiries, including oral and written explanations of results, explanations involving causal relationships, and conclusions and consider patterns • Presenting finding in written form, displays and other presentations • Using test results to make predictions to set up further comparative and fair tests • Using simple models to describe scientific ideas • Identifying scientific evidence that has been used to support or refute ideas or arguments • to choose what evidence to collect to investigate a question, ensuring the evidence is sufficient;

Year 1 Science programme of study

Plants

Statutory requirements

Pupils should be taught to:

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

Notes and guidance (non-statutory)

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, bulb, 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.

Animals, including humans

Statutory requirements

Pupils should be taught to:

- identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals
- identify and name a variety of common animals that are carnivores, herbivores and omnivores
- describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)
- identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.

Notes and guidance (non-statutory)

Pupils should use the local environment throughout the year to explore and answer questions about animals in their habitat. They should understand how to take care of animals taken from their local environment and the need to return them safely after study. Pupils should become familiar with the common names of some fish, amphibians, reptiles, birds and mammals, including those that are kept as pets.

Pupils should have plenty of opportunities to learn the names of the main body parts (including head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth) through games, actions, songs and rhymes.

Pupils might work scientifically by: using their observations to compare and contrast animals at first hand or through videos and photographs, describing how they identify and group them; grouping animals according to what they eat; and using their senses to compare different textures, sounds and smells.

Everyday materials

Statutory requirements

Pupils should be taught to:

- distinguish between an object and the material from which it is made

Statutory requirements

- identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock
- describe the simple physical properties of a variety of everyday materials
- compare and group together a variety of everyday materials on the basis of their simple physical properties.

Notes and guidance (non-statutory)

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 lining a dog basket? ...for curtains? ...for a bookshelf? ...for a gymnast's leotard?'

Seasonal changes

Statutory requirements

Pupils should be taught to:

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

Notes and guidance (non-statutory)

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.

Year 2 Science programme of study

Living things and their habitats

Statutory requirements

Pupils should be taught to:

- explore and compare the differences between things that are living, dead, and things that have never been alive
- identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other
- identify and name a variety of plants and animals in their habitats, including micro-habitats
- describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.

Notes and guidance (non-statutory)

Pupils should be introduced to the idea that all living things have certain characteristics that are essential for keeping them alive and healthy. They should raise and answer questions that help them to become familiar with the life processes that are common to all living things. Pupils should be introduced to the terms 'habitat' (a natural environment or home of a variety of plants and animals) and 'micro-habitat' (a very small habitat, for example for woodlice under stones, logs or leaf litter). They should raise and answer questions about the local environment that help them to identify and study a variety of plants and animals within their habitat and observe how living things depend on each other, for example, plants serving as a source of food and shelter for animals. Pupils should compare animals in familiar habitats with animals found in less familiar habitats, for example, on the seashore, in woodland, in the ocean, in the rainforest.

Pupils might work scientifically by: sorting and classifying things according to whether they are living, dead or were never alive, and recording their findings using charts. They should describe how they decided where to place things, exploring questions for example: 'Is a flame alive? Is a deciduous tree dead in winter?' and talk about ways of answering their questions. They could construct a simple food chain that includes humans (e.g. grass, cow, human). They could describe the conditions in different habitats and micro-habitats (under log, on stony path, under bushes) and find out how the conditions affect the number and type(s) of plants and animals that live there.

Plants

Statutory requirements

Pupils should be taught 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.

Notes and guidance (non-statutory)

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.

Animals, including humans

Statutory requirements

Pupils should be taught to:

- 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.

Notes and guidance (non-statutory)

Pupils should be introduced to the basic needs of animals for survival, as well as the importance of exercise and nutrition for humans. They should also be introduced to the processes of reproduction and growth in animals. The focus at this stage should be on questions that help pupils to recognise growth; they should not be expected to understand how reproduction occurs.

The following examples might be used: egg, chick, chicken; egg, caterpillar, pupa, butterfly; spawn, tadpole, frog; lamb, sheep. Growing into adults can include reference to baby, toddler, child, teenager, adult.

Pupils might work scientifically by: observing, through video or first-hand observation and measurement, how different animals, including humans, grow; asking questions about what things animals need for survival and what humans need to stay healthy; and suggesting ways to find answers to their questions.

Uses of everyday materials

Statutory requirements

Pupils should be taught 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.

Notes and guidance (non-statutory)

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 coins, 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.

Year 3 programme of study

Plants

Statutory requirements

Pupils should be taught to:

- identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers
- explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant
- investigate the way in which water is transported within plants
- explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

Notes and guidance (non-statutory)

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.

Note: 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.

Animals, including humans

Statutory requirements

Pupils should be taught to:

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

Notes and guidance (non-statutory)

Pupils should continue to learn about the importance of nutrition and should be introduced to the main body parts associated with the skeleton and muscles, finding out how different parts of the body have special functions.

Pupils might work scientifically by: identifying and grouping animals with and without skeletons and observing and comparing their movement; exploring ideas about what would happen if humans did not have skeletons. They might compare and contrast the diets of different animals (including their pets) and decide ways of grouping them according to what they eat. They might research different food groups and how they keep us healthy and design meals based on what they find out.

Rocks

Statutory requirements

Pupils should be taught to:

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

Statutory requirements

- recognise that soils are made from rocks and organic matter.

Notes and guidance (non-statutory)

Linked with work in geography, pupils should explore different kinds of rocks and soils, including those in the local environment.

Pupils might work scientifically by: observing rocks, including those used in buildings and gravestones, and exploring how and why they might have changed over time; using a hand lens or microscope to help them to identify and classify rocks according to whether they have grains or crystals, and whether they have fossils in them. Pupils might research and discuss the different kinds of living things whose fossils are found in sedimentary rock and explore how fossils are formed. Pupils could explore different soils and identify similarities and differences between them and investigate what happens when rocks are rubbed together or what changes occur when they are in water. They can raise and answer questions about the way soils are formed.

Light

Statutory requirements

Pupils should be taught to:

- recognise that they need light in order to see things and that dark is the absence of light
- notice that light is reflected from surfaces
- recognise that light from the sun can be dangerous and that there are ways to protect their eyes
- recognise that shadows are formed when the light from a light source is blocked by a solid object
- find patterns in the way that the size of shadows change.

Notes and guidance (non-statutory)

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.

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: looking for patterns in what happens to shadows when the light source moves or the distance between the light source and the object changes.

Forces and magnets

Statutory requirements

Pupils should be taught to:

- compare how things move on different surfaces
- notice that some forces need contact between two objects, but magnetic forces can act at a distance
- observe how magnets attract or repel each other and attract some materials and not others
- compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials
- describe magnets as having two poles
- predict whether two magnets will attract or repel each other, depending on which poles are facing.

Notes and guidance (non-statutory)

Pupils should observe that magnetic forces can act without direct contact, unlike most forces, where direct contact is necessary (for example, opening a door, pushing a swing). They should explore the behaviour and everyday uses of different magnets (for example, bar, ring, button and horseshoe).

Pupils might work scientifically by: comparing how different things move and grouping them; raising questions and carrying out tests to find out how far things move on different surfaces and gathering and recording data to find answers their questions; exploring the strengths of different magnets and finding a fair way to compare them; sorting materials into those that are magnetic and those that are not; looking for patterns in the way that magnets behave in relation to each other and what might affect this, for example, the strength of the magnet or which pole faces another; identifying how these properties make magnets useful in everyday items and suggesting creative uses for different magnets.

Year 4 programme of study

Living things and their habitats

Statutory requirements

Pupils should be taught 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.

Notes and guidance (non-statutory)

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.

Note: 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.

Animals, including humans

Statutory requirements

Pupils should be taught 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
- construct and interpret a variety of food chains, identifying producers, predators and prey.

Notes and guidance (non-statutory)

Pupils should be introduced to the main body parts associated with the digestive system, for example, mouth, tongue, teeth, oesophagus, stomach and small and large intestine and explore questions that help them to understand their special functions.

Pupils might work scientifically by: comparing the teeth of carnivores and herbivores, and suggesting reasons for differences; finding out what damages teeth and how to look after them. They might draw and discuss their ideas about the digestive system and compare them with models or images.

States of matter

Statutory requirements

Pupils should be taught to:

Statutory requirements

- 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.

Notes and guidance (non-statutory)

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.

Note: 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.

Sound

Statutory requirements

Pupils should be taught 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.

Notes and guidance (non-statutory)

Pupils should explore and identify the way sound is made through vibration in a range of different musical instruments from around the world; and find out how the pitch and volume of sounds can be changed in a variety of ways.

Pupils might work scientifically by: finding patterns in the sounds that are made by different objects such as saucepan lids of different sizes or elastic bands of different thicknesses. They might make earmuffs from a variety of different materials to investigate which provides the best insulation against sound. They could make and play their own instruments by using what they have found out about pitch and volume.

Electricity

Statutory requirements

Pupils should be taught 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.

Notes and guidance (non-statutory)

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.

Note: 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.

Year 5 programme of study

Living things and their habitats

Statutory requirements

Pupils should be taught 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.

Notes and guidance (non-statutory)

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.

Animals, including humans

Statutory requirements

Pupils should be taught to:

- describe the changes as humans develop to old age.

Notes and guidance (non-statutory)

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.

Properties and changes of materials

Statutory requirements

Pupils should be taught 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
- 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

Statutory requirements

- 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.

Notes and guidance (non-statutory)

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 Benerito, who invented wrinkle-free cotton.

Note: 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. Safety guidelines should be followed when burning materials.

Pupils might work scientifically by: carrying out tests to answer questions, for example, 'Which materials would be the most effective for making a warm jacket, for wrapping ice cream to stop it melting, or for making blackout curtains?' They might compare materials in order to make a switch in a circuit. They could observe and compare the changes that take place, for example, when burning different materials or baking bread or cakes. They might research and discuss how chemical changes have an impact on our lives, for example, cooking, and discuss the creative use of new materials such as polymers, super-sticky and super-thin materials.

Earth and space

Statutory requirements

Pupils should be taught 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 movement of the sun across the sky.

Notes and guidance (non-statutory)

Pupils should be introduced to a model of the Sun and Earth that enables them to explain day and night. Pupils should learn that the Sun is a star at the centre of our solar system and that it has eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006). They should understand that a moon is a celestial body that orbits a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones).

Note: Pupils should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses.

Pupils should find out about the way that ideas about the solar system have developed, understanding how the geocentric model of the solar system gave way to the heliocentric model by considering the work of scientists such as Ptolemy, Alhazen and Copernicus.

Pupils might work scientifically by: comparing the time of day at different places on the Earth through internet links and direct communication; creating simple models of the solar system; constructing simple shadow clocks and sundials, calibrated to show midday and the start and end of the school day; finding out why some people think that structures such as Stonehenge might have been used as astronomical clocks.

Forces

Statutory requirements

Pupils should be taught 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 smaller force to have a greater effect.

Notes and guidance (non-statutory)

Pupils should explore falling objects and raise questions about the effects of air resistance. They should explore the effects of air resistance by observing how different objects such as parachutes and sycamore seeds fall. They should experience forces that make things begin to move, get faster or slow down. Pupils should explore the effects of friction on movement and find out how it slows or stops moving objects, for example, by observing the effects of a brake on a bicycle wheel. Pupils should explore the effects of levers, pulleys and simple machines on movement. Pupils might find out how scientists, for example, Galileo Galilei and Isaac Newton helped to develop the theory of gravitation.

Pupils might work scientifically by: exploring falling paper cones or cup-cake cases, and designing and making a variety of parachutes and carrying out fair tests to determine which designs are the most effective. They might explore resistance in water by making and testing boats of different shapes. They might design and make products that use levers, pulleys, gears and/or springs and explore their effects.

Year 6 programme of study

Living things and their habitats

Statutory requirements

Pupils should be taught 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.

Notes and guidance (non-statutory)

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.

Animals including humans

Statutory requirements

Pupils should be taught 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.

Notes and guidance (non-statutory)

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.

Pupils might work scientifically by: exploring the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health.

Evolution and inheritance

Statutory requirements

Pupils should be taught 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.

Notes and guidance (non-statutory)

Building on what they learned about fossils in the topic on rocks in year 3, pupils should find out more about how living things on earth have changed over time. They should be introduced to the idea that characteristics are passed from parents to their offspring, for instance by considering different breeds of dogs, and what happens when, for example, labradors are crossed with poodles. They should also appreciate that variation in offspring over time can make animals more or less able to survive in particular environments, for example, by exploring how giraffes' necks got longer, or the development of insulating fur on the arctic fox. Pupils might find out about the work of palaeontologists such as Mary Anning and about how Charles Darwin and Alfred Wallace developed their ideas on evolution.

Note: At this stage, pupils are not expected to understand how genes and chromosomes work.

Pupils might work scientifically by: observing and raising questions about local animals and how they are adapted to their environment; comparing how some living things are adapted to survive in extreme conditions, for example, cactuses, penguins and camels. They might analyse the advantages and disadvantages of specific adaptations, such as being on two feet rather than four, having a long or a short beak, having gills or lungs, tendrils on climbing plants, brightly coloured and scented flowers.

Light

Statutory requirements

Pupils should be taught 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.

Notes and guidance (non-statutory)

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).

Electricity

Statutory requirements

Pupils should be taught 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.

Notes and guidance (non-statutory)

Building on their work in year 4, pupils should construct simple series circuits, to help them to answer questions about what happens when they try different components, for example, switches, bulbs, buzzers and motors. They should learn how to represent a simple circuit in a diagram using recognised symbols.

Note: Pupils are expected to learn only about series circuits, not parallel circuits. Pupils should be taught to take the necessary precautions for working safely with electricity.

Pupils might work scientifically by: systematically identifying the effect of changing one component at a time in a circuit; designing and making a set of traffic lights, a burglar alarm or some other useful circuit.

Subject:		ART AND DESIGN	
Key stage 1	Year 1	Year 2	
Coverage	<ul style="list-style-type: none"> Using a range of artistic materials to design and make products Use drawing to share ideas, experiences and imaginations Use painting to share ideas, experiences and imaginations Use sculpture to share ideas, experiences and imaginations Develop a wide range of techniques in using colour, pattern, texture, line, shape, form and space using clay and printing to large scale and 3D Learn about the work of a range of artists, craftsmen and designers, describing the differences and similarities between practices and disciplines, and making links to their own work 		
Skills	Artistic techniques	<p>Explore simple forms including:</p> <ul style="list-style-type: none"> Drawing: Use a variety of media (pencils, crayons, pastels, charcoal, pen and chalk) to explore line, shape, pattern and colour. Draw figures and objects and begin to understand shading and tone. Painting and Colour: Know what the primary and secondary colours are (and how to make the secondary colours). Know how to make different shades of a colour by using mixing with black and white. Know the appropriate brush size to use and how to use it. Experiment with different painting techniques: layering, mixed media, adding texture. 3D Form: Manipulate clay in different ways (roll, knead, shaping) for a variety of purposes, including thumb and coil pots, relief tiles and models. Begin to understand how to join clay using slip and scoring. Experiment with, construct and join recycled, natural and man-made materials. Collage and Textiles: Use a variety of techniques e.g. felt making, appliqué, tie-dying, oil resist, weaving. Create textured collages from different media. Printing: Use a variety of printing techniques: relief, mono-printing, fabric, rubbings, block-printing. Print using a variety of materials, objects and techniques. Design patterns of increasing complexity and repetition. Work on their own, and collaboratively with others, on projects in 2 and 3 dimensions and on different scales Use ICT 	
	Exploring and developing ideas	<ul style="list-style-type: none"> Record and explore ideas from first hand observation, experience and imagination Ask and answer questions about the starting points for their work and the processes they have used. Develop their ideas. Explore the differences and similarities within the work of artists, craftspeople (different artists from different times and cultures should be explored for most projects). 	
	Evaluating and developing	<ul style="list-style-type: none"> Review what they and others have done and say what they think and feel about it Identify what they might change in their current work or develop in their future work 	

Subject:		ART AND DESIGN	
Key stage 2	Year 3	Year 4	
Coverage	<ul style="list-style-type: none"> • Develop personal techniques including control and use of materials • Experiment through art with an increasing awareness of different kinds of art, craft and design • Create sketch books to record observations and use them to review and revisit ideas, and collect visual material to help them to develop their ideas • Improve mastery of techniques such as drawing, painting and sculpture with varying materials (e.g. pencil, charcoal, paint, clay) • Learn about the greatest artists, architects and designers in history 		
Skills	Artistic techniques	<p>Work on more complex outcomes, with varying techniques using different mediums:</p> <ul style="list-style-type: none"> • Drawing: Experiment with different grades of pencil and other implements. Explore the potential properties of line, tone/shading, pattern, texture, colour and shape. Alter and refine drawing and describe changes using art vocabulary. Draw from imagination, observation and experience. Use sketch books to collect images and information and develop ideas. Annotate sketch books. • Painting and Colour: Demonstrate a secure knowledge of primary and secondary colours, warm and cold colours, complementary and harmonising colours. Work on preliminary studies (in sketchbooks) to test media and materials. Create imaginative work from a variety of sources. • 3D Form: Join clay adequately and work reasonably independently. Make informed choices about the 3D technique chosen. Show an understanding of shape, space and form. Plan, design, make and adapt models. Talk about their work understanding that it has been sculpted, modelled or constructed. Use a variety of materials. • Collage and Textiles: Choose collage or textiles as a means of extending work already achieved. Refine and alter ideas and explain choices using an art vocabulary. Collect visual information from a variety of sources, describing with vocabulary based on the visual and tactile elements. Experiments with paste resist. Experiment with a range of media e.g. overlapping, layering etc. • Printing: Print using a variety of materials, objects and techniques including layering: relief, mono-printing, fabric, rubbings, block-printing. Talk about the processes used to produce a simple print. Explore pattern and shape, creating designs for printing. • Work on their own, and collaboratively with others, on projects in 2 and 3 dimensions and on different scales • Use ICT 	
	Exploring and developing ideas	<ul style="list-style-type: none"> • Select and record from first hand observation, experience and imagination, and explore ideas for different purposes • Question and make thoughtful observations about starting points and select ideas to use in their work • Explore the roles and purposes of artists, craftspeople and designers working in different times and cultures (should be explored for most projects). 	
	Evaluating and developing	<ul style="list-style-type: none"> • Compare ideas, methods and approaches in their own and others' work and say what they think and feel about them • Adapt their work according to their views and describe how they might develop it further 	

Subject:		ART AND DESIGN	
Key stage 2	Year 5	Year 6	
Coverage	<ul style="list-style-type: none"> Continue to progressively develop personal techniques including control and use of materials Increasingly experiment through art with an increasing awareness of different kinds of art, craft and design Create sketch books to record observations and use them to review and revisit ideas, and collect visual material to help them to develop their ideas Improve mastery of increasingly complex techniques through drawing, painting and sculpture with varying materials Learn about the greatest artists, architects and designers in history 		
Skills	Artistic techniques	<p>Experiment more confidently with varying mediums and combinations of mediums where appropriate:</p> <ul style="list-style-type: none"> Drawing: Demonstrate a wide variety of ways to make different marks with dry and wet media. Identify artists who have worked in a similar way to their own work. Develop ideas using different or mixed media, using a sketchbook. Manipulate and experiment with the elements of art: line, tone, pattern, texture, form, space, colour and shape. Painting and Colour: Demonstrate a secure knowledge about primary and secondary, warm and cold, complementary and contrasting colours. Create shades and tints using black and white. Choose appropriate paint, paper and implements to adapt and extend their work. Carry out preliminary studies, test media and materials and mix appropriate colours. Work from a variety of sources, inc. those researched independently. Show an awareness of how paintings are created (composition). 3D Form: Develop skills in using clay inc. slabs, coils, slips, etc. Describe the different qualities involved in modelling, sculpture and construction. Use recycled, natural and man-made materials to create sculpture. Plan a sculpture through drawing and other preparatory work. Collage and Textiles: Awareness of the potential of the uses of material. Use different techniques, colours and textures etc when designing and making pieces of work. To be expressive and analytical to adapt, extend and justify their work. Experiment with using batik safely. Printing: Explain a few techniques, including the use of poly-blocks, relief, mono and resist printing. Choose the printing method appropriate to task. Build up layers and colours/textures. Organise their work in terms of pattern, repetition, symmetry or random printing styles. Choose inks and overlay colours. Work on their own, and collaboratively with others, on projects in 2 and 3 dimensions and on different scales Use ICT 	
	Exploring and developing ideas	<ul style="list-style-type: none"> Select and record from first hand observation, experience and imagination, and explore ideas for different purposes Question and make thoughtful observations about starting points and select ideas and processes to use in their work Explore the roles and purposes of artists, craftspeople and designers working in different times and cultures (should be explored for most projects). 	
	Evaluating and developing	<ul style="list-style-type: none"> Compare ideas, methods and approaches in their own and others' work and say what they think and feel about them Adapt their work according to their views and describe how they might develop it further 	

COMPUTING - SKILLS PROGRESSION: Rec - Y6 2014

		RECEPTION	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Exchanging and Sharing Information	Language /Text	Type their own name in Textease and change it's size Double click using a mouse	IDEA! USE THE "ALL ABOUT ME" TEXTEASE TEMPLATE FOR YR1/2 Switch on the computer and log in independently. Move words into the correct positions. Print out work unaided. Assemble meaningful sentences. Use a word bank to create simple sentences. Enter single letters from a keyboard to write words and sentences. Explain meaning from sounds, pictures and text. Know that computers can use icons to provide information and instructions.	IDEA! USE THE "ALL ABOUT ME" TEXTEASE TEMPLATE FOR YR1/2 Save work and open up later to edit it. Use a file from RM Shared documents. Enter and correct text. Know when and how to use the SPACE BAR. Know when and how to use the RETURN / ENTER key. Move words down the screen. Create sentences, save and edit them later. Use the UNDO button. Add a picture from Clip art or shared documents	IDEA! USE THE "ALL ABOUT ME" TEXTEASE TEMPLATE FOR YR3/4 Alter font type, size and colour for emphasis and effect. Amend text and save changes. Use the shift key to type characters, such as question marks. Amend text using the correct key combinations. Internet/email Safety Rules -SMART Read and respond to e-mails. Send annotated replies to e-mails. Send e-mails. Attach files to e-mails. Have experience of using email to contact others to share information and ideas.	Use font sizes and effects appropriately. Use cut and paste to organise and reorganise text on screen e.g. bullet points. Edit text using delete, insert and overwrite as appropriate. Know how to use a spell check. Internet/email Safety Rules – SMART recap. Have experience of using email to contact others to share information and ideas.	Use the understanding of the editing tools of a word-processor to write different versions and genres of texts. Use knowledge of text marking to extract key points from texts. Discuss examples of what makes a good poster or information booklet - particularly focussing on layout, effective use of fonts and colours and how text and images are most effectively used together Use email to contact others to share information and ideas.	IDEA! DESIGN A WEBSITE TO ADD TO LOLA Evaluate a CDROM page or Internet home page and recognise the features of good page design. Create sample screens and link them in different ways e.g. linear, branching structures, web-like structures. Design pages and links which present the user with clear information. Use email to contact others to share information and ideas.
	Graphics and sound	Make picture in Textease paint. Change the colour of the paint tool Log in independently	Use a painting program to create a representation of a famous artist (maybe Mark Rothko or Patrick Heron –see ART page on LOLA) and simple patterns Move pictures into the correct positions. Select and add stamps or clipart to a picture. Record and play sounds with a dictaphone Use a digital camera to take a photo and preview it	Select and use appropriate tools to create pictures and patterns. Control the pen and then flood fill pictures. Save work and reopen it	IDEA! DESIGN CHRISTMAS OR BIRTHDAY WRAPPING PAPER Combine text and graphics. Create repeating patterns using the stamps and/or copy tool. Use a variety of brush sizes and effects to create pictures. Select areas, copy and resize them. Use the symmetry tool to create patterns. Use sound effects and music with text. Create and amend tunes using compositional software. Locate and record sounds, compare ways of recording and storing sounds. Understand how musical phrases can be organised and re-organised using icons. Use ICT to create, organise and reorganise sounds. IDEA! MAKE AND DESIGN A SOUND MAP OF THE SCHOOL- or CREATE A PIECE OF MUSIC FOR ASSEMBLY.	Use a variety of materials, created on and away from the computer; and use them to make a final image. Create multimedia presentations using PowerPoint or other appropriate resources.	IDEA! CREATE AN OVERHEAD MAP OF A KNOWN SPACE. Understand the limitations of paint packages for modelling. Use object based graphics packages to manipulate shapes, move, rotate, resize. Create objects using an object based graphics package. Use images from a scanner or digital camera in projects. IDEA! CREATE A PP PRESENTATION DISPLAYING INFO ABOUT A TOPIC FOR A SPECIFIC AUDIENCE. Transfer Photos and video from a cameras and edit in both PhotoPlus X2 software and Windows Movie maker or Serif Movie plus. Use a desk top publishing package or multimedia package to create presentations for particular audiences. Using both video, photos, audio clips and text they have taken/composed themselves.	IDEA! RECORD A FACTUAL RADIO PROGRAM, PLAY OR QUIZ SHOW, RECORD IT TO PUT ON THE WEBSITE Create a page of sounds which are activated by appropriately named and positioned buttons. IDEA! MAKE A SHORT FILM, ADVERT OR RETELL A STORY/POEM. Transfer Photos and video from a cameras and edit in both PhotoPlus X2 software and Windows Movie maker or Serif Movie plus. To make a short film, written, recorded, transferred, edited and evaluated. Use digital photos to design posters to advertise the film.
Resources		Textease STUDIO, Microphones, cameras		Textease studio CT, office 365 website, microphones, PowerPoint, digital cameras, Making waves, PowerPoint		Textease, PowerPoint, Serif Movieplus or windows movie maker, SERIF Drawplus X2, digital cameras, microphones, Dictaphones		

		RECEPTION	YEAR 1+ 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Finding Things Out	Research	discuss information found on a computer related to a topic.	<p><i>Use technology purposefully to create, organise, store, manipulate and retrieve digital content</i></p> <p><i>Communicate safely and respectfully online, keeping personal information private, and know where to go for help and support when concerns arise about material on the internet.</i></p> <p>Introduce safe internet searching using lola search bar and then restricted safe search with pre-determined words to search from.</p> <p>Use CEOPs resources to discuss safe searching</p> <p>Have a topic to research and find out about it.</p>	<p>INTERNET SAFETY x 3 weeks minimum – staying safe ONLINE</p> <p>Internet searching</p> <p>Use search engines effectively</p> <p>show children how to effectively find information and then edit them, rewriting it in their own words</p>	<p>INTERNET SAFETY x 3 weeks minimum –staying safe ONLINE</p> <p>Safe use of email-letter out to parents</p> <p>Use search engines effectively</p> <p>show children how to effectively find information and then edit them, rewriting it in their own words</p>	<p>INTERNET SAFETY x 3 weeks minimum –staying safe ONLINE</p> <p>Cyberbullying, texting and chat rooms</p> <p>Describe how internet search engines find and store data and be discerning in evaluating digital content</p> <p>In searches use AND, OR and NOT e.g. search for ‘Birmingham AND NOT USA’. Use ‘more than, less than and including’ in searches.</p> <p>Use search engines effectively</p> <p>show children how to effectively find information and then edit them, rewriting it in their own words</p>	<p>INTERNET SAFETY RECAP - Describe how internet search engines find and store data and be discerning in evaluating digital content</p> <p>Use the Internet to find resources which can be edited for use in projects.</p> <p>Use a favourites list to find information</p> <p>Print pages from the Internet.</p> <p>Use more precise search techniques to find information e.g. AND or quotation marks.</p> <p>Skim and select information.</p> <p>Enter a web address (URL) to find a web site.</p> <p>Copy and paste from the Internet.</p> <p>Use email to contact others to share information and ideas.</p>
	Working With Data	Draw a set amount of objects to represent a number	<p>Use Textease to aid with data handling inputting information they have gathered.</p> <p>Know that there are different kinds of questions so we need to use different kinds of information programs to find our answers.</p> <p>Gather information in a tally chart and then convert to a table in textease</p>	<p>Add a record to a file in a computer database.</p> <p>Use a database to generate bar charts and interpret data.</p> <p>Use the database to answer simple questions by sorting a field.</p> <p>Use the database to answer simple questions by using search criteria.</p> <p>Make a database using information that has been gathered.</p> <p>-rocket database, alien database, plant database for raised beds, any Top trump!</p>	<p>Create a series of yes/no questions to identify objects in a branching database.</p> <p>Produce a tree diagram to identify objects.</p> <p>Create a branching database which identifies objects uniquely.</p> <p>Design questionnaires which match the structure of the database. Produce and explain the meaning and purpose of pie charts.</p> <p>Produce and explain the meaning and purpose of line graphs. Produce and use bar charts, pie charts and line graphs appropriately.</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 collaboration and communication</p> <p>Use graphs to provide supporting evidence for their conclusions about relationships.</p> <p>Identify some of the implications of incorrect data.</p> <p>Identify incorrect and implausible data.</p> <p>Identify an incorrect point on a line graph.</p> <p>Enter data into cells.</p> <p>Enter data and formulae into cells, modify the data, make predictions of changes and check results.</p> <p>Create and use a spreadsheet to produce costings which are within budget.</p> <p>Use ‘SUM’. Use an Easysense Data logger with external probes.</p>	<p>Identify and enter the correct formulae into cells, modify the data, make predictions of changes and check them.</p> <p>Copy formulae to create tables of results.</p> <p>Create graphs from spreadsheets.</p> <p>Create and use a spreadsheet to answer a ‘What if?’ mathematical investigation.</p> <p>Use of excel to help with data analysis and presentation of information</p>
Resources			Textease, LOLA, Internet,	Internet, Textease Branch, Textease Database,	Textease Spreadsheet, Microsoft EXCEL LOLA search facility, internet, Easysense datalogger		

		RECEPTION	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Developing Ideas and Making Things Happen	Making Things Happen (Control and sensing)	<p>Start to program a Beebot</p> <p>Operating simple equipment</p> <p>Use of espresso coding</p>	<p>Understand what algorithms are and start to explore these through the testing of simple programs.</p> <p>Begin to create and de-bug simple programs</p> <p>Put instructions in the correct sequence to achieve the correct results.</p> <p>Give instructions in a common language.</p> <p>Write a sequence of instructions for others to carry out.</p> <p>Write instructions in an agreed format using standardised unit lengths.</p> <p>Use espresso coding to complete unit 1a and 1b</p>	<p>Understand what algorithms are, how they are implemented as programs on digital devices and that programmes execute by following a sequence of instructions</p> <p>Create and de-bug simple programs</p> <p>Use logical reasoning to predict the behaviour of simple programs</p> <p>Enter single commands to control a Beebot and predict the outcome.</p> <p>Enter a sequence of commands to control a Beebot and predict the outcome.</p> <p>Programme the floor turtle to repeat instructions.</p> <p>Solve a problem and explain to others how to use the 'tools' or 'keys'.</p> <p>Work with others to make decisions and solve a problem.</p> <p>Using Beebot, plan and carry out a simple 'journey' using the language and rules of Logo.</p> <p>Use espresso coding to complete unit 2</p>	<p>Design and write and de-bug programs that accomplish specific goals including controlling and simulating physical systems.</p> <p>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</p> <p>Using logical reasoning, detect and correct errors in algorithms and programs</p> <p>Use of Lego WeDo to solve problems like: can you build a moving minibeast? Or can you build a crane to lift up two rubbers? Can you build a moving vehicle to transport an object 30 cm?</p> <p>Use of espresso coding unit 3 to continue with developing algorithms.</p> <p>Use a combination of beebots, textease turtle, espresso coding and Scratch.</p>	<p>Use sequence, selection and repetition in programs; work with variables and various forms of input and output.</p> <p>Using logical reasoning, detect and correct errors in algorithms and programs.</p> <p>Produce two shapes on screen and learn to move the screen turtle using PENUP and PENDOWN.</p> <p>Use the repeat instruction and predict what will happen.</p> <p>Name and edit sequences of instructions.</p> <p>Combine procedures to form a new procedure.</p> <p>Use Logo to make and explore predictions e.g. that the number of repeats affects the shape of a polygon.</p> <p>Use Logo to solve problems in shape angle and measure.</p> <p>Use a combination of beebots, textease turtle, espresso coding and Scratch</p>	<p>Write a procedure to control one output device e.g. light, using WAIT.</p> <p>Write a precise sequence of instructions to control a number of output devices e.g. traffic lights.</p> <p>Write a sequence of instructions, test it and correct any errors or omissions.</p> <p>“What happens when ...?”.</p> <p>Use a sensor to record changes in temperature, light or sound.</p> <p>Use a sensor to take a series of accurate readings over a period of time and explain the advantages of using a computer to do this.</p> <p>Use a sensor to monitor external conditions in relation to the environment e.g. noise pollution.</p> <p>Discuss the advantages of using a remote sensor.</p>	<p>Learn that an input device can be used to cause an event.</p> <p>Write a procedure to check inputs and switch on an output.</p> <p>Write and test a procedure to check two inputs and an output event.</p> <p>Write procedures for inputs and outputs to simulate everyday events or to test on working models.</p>
	Developing Ideas and Trying Things Out (Modelling)	Espresso coding	<p>Explore a simple adventure game</p> <p>Solve a simple problem.</p> <p>Choose an option.</p> <p>Achieve a desired effect by choosing particular options.</p> <p>Use a variety of types of information - text, pictures, sound, colour.</p>	<p>Try out ideas using art and text/publishing programs to create greetings cards and other useful outcomes.</p>	<p>Use a simulation to make and explore predictions and to identify patterns. Use Turtle to make and explore predictions and to identify patterns</p> <p>Have experience of the Easysense Data loggers.</p> <p>Demonstrate to others and/or prepare a list of instructions for others to use. Enter data into a computer simulation i.e. make a choice. Solve an adventure game describe or show in diagrams how this was achieved. Demonstrate a more planned approach to solving problems rather than a random choice of options.</p>		<p>Use a graphical model to solve a problem - identifying patterns and relationships, perhaps working to scale.</p> <p>Use the features of programs and a variety of media to create suitable presentations for particular audiences</p> <p>Use spreadsheet models to solve problems.</p>	<p>Use sensors in a geography or science experiment to record changes in the environment over a period of time and explain the results e.g. testing insulation properties by measuring the drop in temperature of the liquid in two containers.</p>
Resources			Roamer, Beebot, Beebot software, LOLA, internet (CBEBIE's), Textease paint	Arcventure Romans/Egyptians/Vikings Simulation websites on LOLA, Textease Turtle, Making waves, Microphones, Crystal rainforest, Dataloggers		Flow3 + Flowgo Sensors kit Data harvest Easysense+ Dataloggers, Textease, Scratch and resources.		

Year 5 and 6
An element of computer programming will need to be included in each year's curriculum. A unit on FLOWOL one year and then SCRATCH the following would be appropriate.

DESIGN AND TECHNOLOGY

Key stage 1	Year 1	Year 2						
Coverage	<ul style="list-style-type: none"> Develop basic principles of balanced eating, and where food comes from. Perform simple, useful, practical tasks Know about good design, everyday products and use correct technical terminology. Communicate ideas simply such as through drawing, jottings, modelling in 2D and 3D, where appropriate, using ICT to record and develop designs 	<ul style="list-style-type: none"> Understand food and nutrition with opportunities to cook. Develop practical skills and use these safely with a range of resistant and non-resistant materials, drawing media, tools and equipment in both 2D and 3D. Perform simple, useful, practical tasks, making products for a purpose Develop and use a range of common practical skills in contexts such as mechanical, diagnostic and repair tasks Appreciate the need for good design by evaluating a range of design and designers. 						
Skills	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; text-align: center; vertical-align: middle;"><i>DESIGN: Developing and planning ideas</i></td> <td> <ul style="list-style-type: none"> Draw on their own experience to help generate ideas Suggest ideas and explain what they are going to do Identify a target group for what they intend to design and make Model ideas in card and paper Develop their design ideas applying findings from their earlier research </td> </tr> <tr> <td style="text-align: center; vertical-align: middle;"><i>MAKE and TECHNICAL: Using techniques to develop products</i></td> <td> <ul style="list-style-type: none"> With help measure, mark out, cut and shape a range of materials Select and use appropriate fruit and vegetables, processes and tools Practice basic food handling, hygienic practices and personal hygiene Use simple finishing techniques to improve the appearance of their product </td> </tr> <tr> <td style="text-align: center; vertical-align: middle;"><i>EVALUATE</i></td> <td> <ul style="list-style-type: none"> Evaluate by discussing how well it works in relation to the purpose Ask questions about what they have made and how they have gone about it </td> </tr> </table>	<i>DESIGN: Developing and planning ideas</i>	<ul style="list-style-type: none"> Draw on their own experience to help generate ideas Suggest ideas and explain what they are going to do Identify a target group for what they intend to design and make Model ideas in card and paper Develop their design ideas applying findings from their earlier research 	<i>MAKE and TECHNICAL: Using techniques to develop products</i>	<ul style="list-style-type: none"> With help measure, mark out, cut and shape a range of materials Select and use appropriate fruit and vegetables, processes and tools Practice basic food handling, hygienic practices and personal hygiene Use simple finishing techniques to improve the appearance of their product 	<i>EVALUATE</i>	<ul style="list-style-type: none"> Evaluate by discussing how well it works in relation to the purpose Ask questions about what they have made and how they have gone about it 	<ul style="list-style-type: none"> Generate ideas by drawing on their own and other people's experiences Develop their design ideas through discussion, observation, drawing and modelling Identify design criteria Make drawings and label parts for the design process <ul style="list-style-type: none"> Select tools and materials Measure, cut and score with some accuracy Use hand tools safely and appropriately Assemble, join and combine materials in order to make a product Follow safe procedures for food safety and hygiene Choose and use appropriate finishing techniques <ul style="list-style-type: none"> Evaluate against their design criteria Evaluate in process identifying strengths and possible changes they might make Talk about ideas, saying what they like and dislike about them Evaluate designs by other people to learn from them
<i>DESIGN: Developing and planning ideas</i>	<ul style="list-style-type: none"> Draw on their own experience to help generate ideas Suggest ideas and explain what they are going to do Identify a target group for what they intend to design and make Model ideas in card and paper Develop their design ideas applying findings from their earlier research 							
<i>MAKE and TECHNICAL: Using techniques to develop products</i>	<ul style="list-style-type: none"> With help measure, mark out, cut and shape a range of materials Select and use appropriate fruit and vegetables, processes and tools Practice basic food handling, hygienic practices and personal hygiene Use simple finishing techniques to improve the appearance of their product 							
<i>EVALUATE</i>	<ul style="list-style-type: none"> Evaluate by discussing how well it works in relation to the purpose Ask questions about what they have made and how they have gone about it 							

Subject:		DESIGN AND TECHNOLOGY	
Key stage 2		Year 3	Year 4
Coverage	<ul style="list-style-type: none"> Develop skills and safe use of a wider range of tools and equipment through a range of practical tasks Extend skills to communicate ideas visually in 2D and 3D including through the use of ICT Connect to local crafts or industries 		<ul style="list-style-type: none"> Develop skills and safe use of a wider range of tools and equipment through a range of practical tasks Learn about the major components of a balanced diet and how ingredients can be designed to create healthy meals Basic cooking techniques and preparation of a variety of savoury dishes Make products that are fit for purpose
	Skills	DESIGN: <i>Developing and planning ideas</i>	<ul style="list-style-type: none"> Generate ideas for an item, considering its purpose and the user/s Identify a purpose and establish criteria for a successful product. Plan the order of their work before starting Explore, develop and communicate design proposals by modelling ideas Make detailed drawings with labels when designing
MAKE and TECHNICAL: <i>Using techniques to develop products</i>		<ul style="list-style-type: none"> Select tools and techniques for making their product and work safely / accurately Measure, mark out, cut, score and assemble components with more accuracy to measure, tape or pin, cut and join fabric with some accuracy to use finishing techniques to strengthen and improve the appearance of their product 	<ul style="list-style-type: none"> Select appropriate tools and techniques for making their product Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques Join and combine materials and components accurately in temporary and permanent ways Use simple graphical communication techniques Demonstrate hygienic food preparation and storage
EVALUATE		<ul style="list-style-type: none"> Think about their ideas as they make progress and be willing to change things if this helps them to improve their work Evaluate their product against original design criteria 	<ul style="list-style-type: none"> Disassemble and evaluate familiar products Evaluate their products carrying out appropriate tests

Subject:		DESIGN AND TECHNOLOGY	
Key stage 2		Year 5	Year 6
Skills	Coverage	<ul style="list-style-type: none"> Learn about the major components of a balanced diet and how ingredients can be designed to create healthy meals Basic cooking techniques and preparation of a variety of savoury dishes Develop and use straightforward practical, maintenance and repair skills Key events and turning points in design and technology such as the Industrial Revolution and how they have shaped the world we live in. 	<ul style="list-style-type: none"> Understand, and where appropriate, use the design cycle of planning, developing prototypes, modifying, making and evaluating Understand how to use constructive feedback to improve designs and what has been made, and use these to improve own work Use textiles and materials to make a product
	DESIGN: <i>Developing and planning ideas</i>	<ul style="list-style-type: none"> Generate ideas through brainstorming and identify a purpose for their product Draw up a specification for their design Develop a clear idea of what has to be done, planning how to use materials, equipment and processes; suggesting alternative methods if the first attempts fail Use results of investigations and information sources when developing design ideas 	<ul style="list-style-type: none"> Communicate ideas through detailed labelled drawings Develop a design specification Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways Plan the order of work, choosing appropriate materials, tools and techniques including the use of the design cycle
	MAKE and TECHNICAL: <i>Using techniques to develop products</i>	<ul style="list-style-type: none"> Select appropriate materials, tools and techniques Measure, mark out, cut and join accurately Use skills with different tools and equipment safely and accurately Weigh and measure accurately Apply the rules for basic food hygiene and other safe practices 	<ul style="list-style-type: none"> Select appropriate tools, materials, components and techniques Assemble components to make working models Use tools safely and accurately Construct products using permanent joining techniques Make modifications in process Pin, sew and stitch materials together to create a product
	EVALUATE	<ul style="list-style-type: none"> Evaluate a product against the original design specification Evaluate it personally and seek evaluation from others 	<ul style="list-style-type: none"> Evaluate products, identifying strengths and areas for development, and carrying out appropriate tests Record evaluations using drawings with labels Evaluate against original criteria and suggest ways that their product could be improved

Subject:		GEOGRAPHY	
Key stage 1	Year 1		Year 2
Coverage	<ul style="list-style-type: none"> Name, locate and identify characteristics of the four countries and capital cities of the United Kingdom and its surrounding seas Identify seasonal and daily weather patterns in the United Kingdom Use geographical vocabulary to refer to key physical features: Beach, cliff, coast, forest, hill, mountain, sea, ocean, river, soil, valley, vegetation, season, weather; Human features: City, town, village, factory, farm, house, office, port, harbour and shop Connect to their locality and surrounding area 		<ul style="list-style-type: none"> Develop a knowledge of the wider United Kingdom and the World Name and locate the world's continents and oceans Understand geographical similarities and differences through studying the human and physical geography of a small area of the United Kingdom and of a contrasting non-European Country Identify hot/cold areas of the World in relation to the Equator and North/South Poles Use maps and photographs at appropriate skill level Use fieldwork skills at an appropriate skill level
Skills <i>(suggested in light of no guidance)</i>	<i>Geographical Enquiry</i>	<ul style="list-style-type: none"> Ask and respond to simple closed questions led by teacher Use information books/pictures as sources of information. Investigate their surroundings in terms of the school, the local area, the wider community and the UK Make observations about where things are e.g. within school or local area 	<ul style="list-style-type: none"> Ask simple geographical questions; Where is it? What's it like? Use books, stories, maps, pictures/photos and internet as sources of information. Investigate their surroundings in the wider UK and start to contrast Make simple comparisons between features of different places using physical and human features. Make appropriate observations about why things happen.
	<i>Map and Field skills</i>	<i>Please see separate detailed skills ladder below for Map Work and Field work skills</i>	

Subject:		GEOGRAPHY	
Key stage 2		Year 3	Year 4
Coverage		<ul style="list-style-type: none"> Extend their knowledge of the UK beyond the local area to include other countries Name and locate cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, including hills, mountains, rivers, key topographical features and land use patterns; settlements and land-use and understand how some of the aspects have changed over time The Water Cycle Map and field work skills at appropriate level 	<ul style="list-style-type: none"> Making contrast to a European area Understand geographical similarities and differences through the study of human and physical geography of a region or area of the United Kingdom, and a region or area of a European Country Locate the world's countries, using maps to focus on Europe and concentrating on their environmental regions, key physical and human characteristics, countries and major cities Map and field work skills at appropriate level
Skills <i>(suggested in light of no guidance)</i>	<i>Geographical Enquiry</i>	<ul style="list-style-type: none"> Begin to ask/initiate geographical questions. Use books, stories, atlases, pictures/photos and internet as sources of information. Investigate places and themes at more than one scale Begin to collect and record evidence aided Analyse evidence and begin to draw conclusions e.g. make comparisons between two locations using photos/pictures, temperatures in different locations. 	<ul style="list-style-type: none"> Ask and respond to questions and offer their own ideas. Extend to satellite images, aerial photographs Investigate places and themes at more than one scale Collect and record evidence with some aid Analyse evidence and draw conclusions e.g. make comparisons between locations photos/pictures/maps
	<i>Map and Field skills</i>	<i>Please see separate skills ladder below for Map Work and Fieldwork skills</i>	

Subject:		GEOGRAPHY	
Key stage 2	Year 5		Year 6
Coverage	<p>A further European contrast or North America or South America:</p> <ul style="list-style-type: none"> • Understand geographical similarities and differences through the study of human and physical geography of a region or area of the United Kingdom, and a region or area of a European Country and a region or Area within North or South America • Locate the world's countries, using maps to focus on Europe, North and South America and concentrating on their environmental regions, key physical and human characteristics, countries and major cities. • Physical geography including climate zones, rivers, mountains, volcanoes and earthquakes. • Human Geography including types of economic activity and trade-links. 		<ul style="list-style-type: none"> • North America or South America in contrast to the UK and other countries studied in previous years • Identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle and time zones including day and night • Physical geography including biomes and vegetation belts. • Human Geography including the distribution of natural resources including energy, food, minerals and water
	Skills <i>(suggested in light of no guidance)</i>	Geographical Enquiry	<ul style="list-style-type: none"> • Begin to suggest questions for investigating • Begin to use primary and secondary sources of evidence in their investigations. • Investigate places with more emphasis on the larger scale; contrasting and distant places • Collect and record evidence unaided • Analyse evidence and draw conclusions e.g. compare historical maps of varying scales e.g. temperature of various locations - influence on people/everyday life • Progress learning with appropriate development in skills around field work and map work
Map and Field skills		<i>Please see separate skills ladder below for Map Work and Field work skills</i>	

FIELDWORK

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Questionnaires	Listen to an adult asking another child or adult about familiar environments or activities	Ask a familiar person prepared Use a pro-forma and put ticks in boxes.	Gain confidence in speaking to an unfamiliar person. Records some of what they found out Use a simple database to present findings.	Suggest questions to ask as part of an investigation. Use appropriate geographical vocabulary. Record the main points shortly after Use a database to present findings.	Prepare questions for an interview. Use appropriate language and ask questions that are responsive to the interviewee's views. Make brief notes during an interview to help them make a clear record of the main points. Use a database to interrogate and amend information collected.	Select interviewing as an appropriate method for collecting evidence. Decide on an appropriate interviewee. Prepare and carry out interview, sometimes in a formal situation. Evaluate the quality of the evidence. Use a database to interrogate and amend information collected.
Observation and Fieldsketching	Draw simple features they observe in their familiar environment. Add colour and textures to prepared sketches.	Draw an outline of simple features they observe. Add colour, texture and detail to prepared field sketches. Join labels to correct features.	Draw a sketch of a simple feature from observation or photo. Add colour, texture and detail to own field sketches. Add title and descriptive labels with help	Pick out the key lines and features of a view in the field using a viewfinder to help. Annotate their sketch with descriptive and explanatory labels. Add title, location and direction to sketch.	Evaluate their sketch against criteria and improve it. Use sketches as evidence in an investigation.	Select field sketching from a range of techniques for an investigation. Evaluate quality of the evidence it gives. Annotate sketches to describe and explain geographical processes and patterns.
Photography	Recognise a photo taken by a teacher as a record of what they have seen.	Use a camera in the field with help to record what they have seen. Label the photo with help.	Point out useful views to photograph for their investigation. Add titles and labels to photos giving date and location.	Suggest how photos provide useful evidence for their investigations. Use a camera independently Locate a photo on a map. Annotate the photo.	Make a judgement about the best angle or viewpoint. Evaluate usefulness of their photos. Use photos for their investigations.	Select photography from a range of techniques as the most appropriate for the evidence they need. Evaluate the quality of the evidence they collect this way.
Measurement	Use everyday language to describe features <i>E.g. bigger, smaller than.</i>	Use every day non-standard units <i>E.g. hands for length.</i> Counts the number of. <i>E.g. children who come to school by car.</i>	Use every day standard and non-standard units occasionally Begin to organise recordings.	Use easy to read instruments Count and record different types at the same time using a tally. Organise results in a spreadsheet.	Select and use a range of measuring instruments in investigations. Design own census, pilot, with help, and evaluate it.	Select and use a range of measuring instruments in investigations. Design own census, pilot and evaluate it.

MAP SKILLS

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Direction/ Location	Follow directions (Up, down, left/right, forwards/backwards)	Follow directions (as yr 1 and inc'. NSEW)	Use 4 compass points to follow/give directions: Use letter/no. co-ordinates to locate features on a map.	Use 4 compass points well: Begin to use 8 compass points; Use letter/no. co-ordinates to locate features on a map confidently.	Use 8 compass points; Begin to use 4 figure co-ordinates to locate features on a map.	Use 8 compass points confidently and accurately; Use 4 figure co-ordinates confidently to locate features on a map. Begin to use 6 figure grid refs;
Drawing maps	Draw picture maps of imaginary places and from stories.	Draw a map of a real or imaginary place. (e.g. add detail to a sketch map from aerial photograph)	Try to make a map of a short route experienced, with features in correct order; Try to make a simple scale drawing.	Make a map of a short route experienced, with features in correct order; Make a simple scale drawing.	Begin to draw a variety of thematic maps based on their own data.	Draw a variety of thematic maps based on their own data. Begin to draw plans of increasing complexity.
Representation	Use own symbols on imaginary map.	Begin to understand the need for a key. Use class agreed symbols to make a simple key.	Know why a key is needed. Use standard symbols.	Know why a key is needed. Begin to recognise symbols on an OS map.	Draw a sketch map using symbols and a key; Use/recognise OS map symbols.	Use/recognise OS map symbols; Use atlas symbols.
Using maps	Use a simple picture map to move around the school; Recognise that it is about a place.	Follow a route on a map. Use a plan view. Use an infant atlas to locate places.	Locate places on larger scale maps e.g. map of Europe. Follow a route on a map with some accuracy. (e.g. whilst orienteering)	Locate places on large scale maps, (e.g. Find UK or India on globe) Follow a route on a large scale map.	Compare maps with aerial photographs. Select a map for a specific purpose. Begin to use atlases to find out about other features of places	Follow a short route on an OS map. Describe features shown on OS map. Locate places on a world map. Use atlases to find out about other features of places
Scale/Distance	Use relative vocabulary (e.g. bigger/smaller, like/dislike)	Begin to spatially match places (e.g. recognise UK on a small scale and larger scale map)	Begin to match boundaries (E.g. find same boundary of a country on different scale maps.)	Begin to match boundaries (E.g. find same boundary of a county on different scale maps.)	Measure straight line distance on a plan. Find/recognise places on maps of different scales.	Use a scale to measure distances. Draw/use maps and plans at a range of scales.

Subject:		HISTORY	
Key Stage 1		Year 1	Year 2
Coverage		<ul style="list-style-type: none"> • Changes within living memory – where appropriate, these should be used to reveal aspects of change in national life • Significant historical events, people and places in their own locality 	<ul style="list-style-type: none"> • The lives of significant individuals in Britain's past who have contributed to national and international achievements. Some should be used to compare aspects of life in different periods • Events beyond living memory that are significant nationally or globally
Skills <i>(suggested in light of no guidance)</i>	<i>Chronological understanding</i>	<ul style="list-style-type: none"> • Sequence events in their life • Sequence 3 or 4 artefacts from different periods of time • Match objects to people of different ages • Describe memories of key events in lives 	<ul style="list-style-type: none"> • Sequence artefacts closer together in time • Sequence photographs from different periods of their life • Describe key events and when they happened in time
	<i>Range and depth</i>	<ul style="list-style-type: none"> • Recognise the difference between past and present in their own and others' lives • Recount episodes from stories about the past 	<ul style="list-style-type: none"> • Recognise why people did things, why events happened and what happened as a result • Identify differences between ways of life at different times
	<i>Interpretation of History</i>	<ul style="list-style-type: none"> • Use stories to encourage children to distinguish between fact and fiction • Compare adults talking about the past – how reliable are their memories? 	<ul style="list-style-type: none"> • Compare 2 versions of a past event • Compare pictures or photographs of people or events in the past • Discuss reliability of photos/accounts/stories
	<i>Historical Enquiry</i>	<ul style="list-style-type: none"> • Find answers to simple questions about the past from sources of information e.g. artefacts 	<ul style="list-style-type: none"> • Use a source – observe or handle sources to answer questions about the past on the basis of simple observations.

Subject:	HISTORY			
Key stage 2	Year 3		Year 4	
Coverage	Ancient Greece A study of Greek life and achievements, and their influence on the Western world		Ancient Rome	
	Local History study <i>Note: This could also be linked to other areas of History relevant to locality such as Roman, Victorian, Tudor time periods</i>			
	Changes in Britain from the Stone Age to the Iron Age		The Roman Empire's impact on Britain	
Skills <i>(suggested in light of no guidance)</i>	<i>Chronological understanding</i>	<ul style="list-style-type: none"> Place the time studied on a time line Use dates and terms related to the study unit and passing of time Sequence several events or artefacts 	<ul style="list-style-type: none"> Place events from period studied on timeline Use terms related to the period and begin to date events Understand more complex terms e.g. BC/AD 	
	<i>Range and depth</i>	<ul style="list-style-type: none"> Find out about everyday lives of people in time studied Compare with our life today Identify reasons for and results of people's actions Understand why people may have wanted to do something 	<ul style="list-style-type: none"> Use evidence to reconstruct life in time studied Identify key features and events of time studied Look for links and effects in time studied Offer a reasonable explanation for some events 	
	<i>Interpretation of History</i>	<ul style="list-style-type: none"> Identify and give reasons for different ways in which the past is represented Distinguish between different sources – compare different versions of the same story Look at representations of the periods 	<ul style="list-style-type: none"> Look at the evidence available Use various sources to gain historical knowledge Begin to evaluate the usefulness of different sources 	
	<i>Historical Enquiry</i>	<ul style="list-style-type: none"> Use a range of sources to find out about a period Observe small details – artefacts, pictures Select and record information relevant to the study Begin to use various means of research 	<ul style="list-style-type: none"> Use evidence to build up a picture of a past event Choose relevant material to present a picture of one aspect of life in time past Ask a variety of questions Use various means of research and begin independently researching 	

Subject:		HISTORY	
Key stage 2		Year 5	Year 6
Coverage	The achievements of the Earliest Civilisations An overview of where and when they appeared and a detailed study of one of the following: Ancient Sumer; The Indus Valley; Ancient Egypt, The Shang Dynasty of Ancient China		Time period post-1066 of schools choice e.g. WW2, Victorians, Tudors
	Britain's settlement by Anglo-Saxons and Scots, and The Viking and Anglo-Saxon struggle for the Kingdom of England		A non-European society that provides contrasts with British history One 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
Skills <i>(suggested in light of no guidance)</i>	<i>Chronological understanding</i>	<ul style="list-style-type: none"> • Know and sequence key events of time studied • Use relevant terms and period labels • Make comparisons between different times in the past 	<ul style="list-style-type: none"> • Place current study on time line in relation to other studies • Use relevant dates and terms • Sequence up to 10 events on a time line
	<i>Range and depth</i>	<ul style="list-style-type: none"> • Study different aspects of different people - differences between men and women • Examine causes and results of great events and the impact on people • Compare life in early and late 'times' studied • Compare an aspect of life with the same aspect in another period 	<ul style="list-style-type: none"> • Find out about beliefs, behaviour and characteristics of people, recognising that not everyone shares the same views and feelings • Compare beliefs and behaviour with another time studied • Write another explanation of a past event in terms of cause and effect using evidence to support and illustrate their explanation • Know key dates, characters and events of time studied
	<i>Interpretation of History</i>	<ul style="list-style-type: none"> • Compare accounts of events from different sources – fact or fiction • Offer some reasons for different versions of events 	<ul style="list-style-type: none"> • Link sources and work out how conclusions were arrived at • Consider ways of checking the accuracy of interpretations – fact or fiction and opinion • Be aware that different evidence will lead to different conclusions
	<i>Historical Enquiry</i>	<ul style="list-style-type: none"> • Begin to identify primary and secondary sources • Use evidence to build up a picture of a past event • Select relevant sections of information 	<ul style="list-style-type: none"> • Recognise primary and secondary sources • Use a range of sources to find out about an aspect of time past • Suggest omissions and the means of finding out • Bring knowledge gathered from several sources together in a fluent account

Subject:	LANGUAGES <i>School chosen Language for continued progression through Key Stage 2 - FRENCH</i>	
Coverage	Year 3	Year 4
	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Engage in conversations; ask and answer questions; express opinions and respond to those of others; seek clarification and help • Appreciate stories, songs, poems and rhymes in the language • Describe people, places, things and actions orally
	Year 5	Year 6
	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Broaden vocabulary and develop an 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.

Subject:	MUSIC
Key stage 1	Year 1/2
Coverage	<ul style="list-style-type: none"> • Use voices expressively 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.
Key stage 2	Year 3/4
Coverage	<ul style="list-style-type: none"> • Play and perform in solo and ensemble contexts, using their voice and playing musical instruments with increasing accuracy, control and expression • Compose music using the inter-related dimensions of music separately and in combination • Listen with attention to detail and recall sounds with increasing aural memory • Appreciate and understand a wide range of high quality live and recorded music from different traditions and from great musicians and composers • Develop an understanding of the history of music
	Year 5/6
Coverage	<ul style="list-style-type: none"> • Play and perform in solo and ensemble contexts, using their voice and playing musical instruments with increasing accuracy, control and expression • Improvise and compose music using the inter-related dimensions of music separately and in combination • Listen with attention to detail and recall sounds with increasing aural memory • Use and understand the basics of staff and other musical notations • Appreciate and understand a wide range of high quality live and recorded music from different traditions and from great musicians and composers • Develop an understanding of the history of music
	<i>Please see detailed skills ladder below for Musical areas</i>

MUSIC: Skills			
	Year 1/2	Year 3/4	Year 5/6
Singing songs	<ul style="list-style-type: none"> To find their singing voice and use their voices confidently. Sing a melody accurately Sing with a sense of awareness of pulse and control of rhythm. Recognise phrase lengths and know when to breathe. Follow pitch movements with their hands and use high, low and middle voices. Begin to sing with control of pitch Sing with an awareness of other performers. 	<ul style="list-style-type: none"> Sing with confidence using a wider vocal range. Sing in tune. Sing with awareness of pulse and control of rhythm. Recognise simple structures. Sing expressively with awareness and control at the expressive elements. Sing songs and create different vocal effects. Understand how mouth shapes can affect voice sounds. Internalise sounds by singing parts of a song 'in their heads.' 	<ul style="list-style-type: none"> Sing songs with increasing control of breathing, posture and sound projection. Sing songs in tune and with an awareness of other parts. Identify phrases through breathing in appropriate places. Sing with expression and rehearse with others. Sing a round in two parts and identify the melodic phrases and how they fit together. Sing confidently as a class, in small groups and alone, and begin to have an awareness of improvisation with the voice.
Listening, Memory and Movement.	<ul style="list-style-type: none"> Recall and remember short songs and sequences and patterns of sounds. Respond physically when performing, composing and appraising music. Identify different sound sources. Identify well-defined musical features. 	<ul style="list-style-type: none"> Identify melodic phrases and play them by ear. Create sequences of movements in response to sounds. Explore and chose different movements to describe animals. Demonstrate the ability to recognise the use of structure and expressive elements through dance. Identify phrases that could be used as an introduction, interlude and ending. 	<ul style="list-style-type: none"> Internalise short melodies and play these on pitched percussion (play by ear). Create dances that reflect musical features. Identify different moods and textures. Identify how a mood is created by music and lyrics. Listen to longer pieces of music and identify features.
Exploring sounds, melody and instruments	<ul style="list-style-type: none"> To explore different sound sources. Make sounds and recognise how they can give a message. Identify and name classroom instruments. Create and chose sounds in response to a given stimulus. Identify how sounds can be changed. Play instruments in different ways and create sound effects. Handle and play instruments with control. Identify different groups of instruments. Change sounds to reflect different stimuli. 	<ul style="list-style-type: none"> Identify ways sounds are used to accompany a song. Analyse and comment on how sounds are used to create different moods. Explore and perform different types of accompaniment. Explore and select different melodic patterns. Recognise and explore different combinations of pitch sounds. Identify melodic phrases and play them by ear. Select instruments to describe visual images and on the basis of internalised sounds. 	<ul style="list-style-type: none"> Identify and control different ways percussion instruments make sounds. Play accompaniments with control and accuracy. Create different effects using combinations of pitched sounds. Use ICT to change and manipulate sounds.
Reading and writing notation	Perform long and short sounds in response to symbols. Create long and short sounds on instruments. Play and sing phrase from graphic notation. Record their own ideas. Make their own symbols as part of a class score.		Perform using notation as a support. Sing songs with staff notation as support.
Controlling pulse and rhythm	<ul style="list-style-type: none"> Identify the pulse in different pieces of music. Identify the pulse and join in getting faster and slower together. Identify long and short sounds in music. Perform a rhythm to a given pulse. Begin to internalise and create rhythmic patterns. 	<ul style="list-style-type: none"> Recognise rhythmic patterns. Perform a repeated pattern to a steady pulse. Identify and recall rhythmic and melodic patterns. Identify repeated patterns used in a variety of music. (Ostinato). 	<ul style="list-style-type: none"> Identify different speeds of pulse (tempo) by clapping and moving. Improvise rhythm patterns. Perform an independent part keeping to a steady beat. Identify the metre of different songs through recognising the pattern of strong and weak beats.

	<ul style="list-style-type: none"> Accompany a chant or song by clapping or playing the pulse or rhythm. 		<ul style="list-style-type: none"> Subdivide the pulse while keeping to a steady beat.
Composition	<ul style="list-style-type: none"> Contribute to the creation of a class composition. Begin to create own music independently Compose music in pairs and make improvements to their own work. 	<ul style="list-style-type: none"> Create textures by combining sounds in different ways. Create music that describes contrasting moods/emotions. Improvise simple tunes based on the pentatonic scale. Create an accompaniment to a known song. Create descriptive music in pairs or small groups. 	<ul style="list-style-type: none"> Identify different starting points or composing music. Explore, select combine and exploit a range of different sounds to compose a soundscape. Write lyrics to a known song. Compose a short song to own lyrics based on everyday phrases. Compose music individually or in pairs using a range of stimuli and developing their musical ideas into a completed composition.
Performance and Evaluation	<ul style="list-style-type: none"> Perform together and follow instructions that combine the musical elements. Choose sounds and instruments carefully and make improvements to their own and others' work. 	<ul style="list-style-type: none"> Perform in different ways, exploring the way the performers are a musical resource. Perform with awareness of different parts. Recognise how music can reflect different intentions. 	<ul style="list-style-type: none"> Present performances effectively with awareness of audience, venue and occasions Improve work through analysis, evaluation and comparison.

PHYSICAL EDUCATION	
Key stage 1	Year 1/2
Skills and Coverage	<ul style="list-style-type: none"> • Develop core movement skills, mastering basic movements such as running, jumping, throwing, catching • Develop core movements around the development of balance, agility, coordination • Apply these skills to a range of activities • Participate in team games, developing simple tactics for attacking and defending • Perform dances using simple movement patterns • Knowledge and understanding of fitness and health – recognise how their body changes with exercise and the importance of warming up • Swimming skills • OAA skills
Key stage 2	Year 3/4
Skills and Coverage	<ul style="list-style-type: none"> • Use running, jumping, catching and throwing in isolation and combination • Play competitive games at an appropriate level such as football, netball, rounders, cricket, hockey, basketball, badminton, tennis • Apply basic principles and tactics suitable to these games for attacking and defending • Develop flexibility, strength, technique, control and balance through gymnastics and athletics • Perform and compose dances using a range of movement patterns • Take part in outdoor and adventurous activity challenges both individually and as part of a team • Compare performances to previous ones to achieve their personal best – evaluate own and peer performances • Swim competently, confidently and proficiently over a distance of at least 25 metres • Use a range of strokes effectively such as front crawl, backstroke and breaststroke • Perform safe self-rescue in different water-based situations • Knowledge and understanding of fitness and health – recognise how their body changes with exercise and the importance of appropriate warming up
	Year 5/6
Skills and Coverage	<ul style="list-style-type: none"> • Use running, jumping, catching and throwing in isolation and combination • Play competitive games at an appropriate level such as football, netball, rounders, cricket, hockey, basketball, badminton, tennis • Apply basic principles and tactics suitable to these games for attacking and defending • Develop flexibility, strength, technique, control and balance through gymnastics and athletics • Perform and compose dances using a range of movement patterns • Take part in outdoor and adventurous activity challenges both individually and as part of a team • Compare performances to previous ones to achieve their personal best – evaluate own and peer performances • Swim competently, confidently and proficiently over a distance of at least 25 metres • Use a range of strokes effectively such as front crawl, backstroke and breaststroke • Perform safe self-rescue in different water-based situations • Knowledge and understanding of fitness and health – why exercise is good for their health and wellbeing, and prepare effectively for an activity

Foundation and KS1 follow Leap into Life and KS2 follow the Medium Term PEDPASS Unit plans.