



Science Curriculum Year 1 and 2 – Cycle A

Purpose of study

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world’s future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

Aims

The national curriculum for science aims to ensure that all pupils:

- ♣ develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- ♣ develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- ♣ are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Scientific knowledge and conceptual understanding

The programmes of study describe a sequence of knowledge and concepts. While it is important that pupils make progress, it is also vitally important that they develop secure understanding of each key block of knowledge and concepts in order to progress to the next stage. Insecure, superficial understanding will not allow genuine progression: pupils may struggle at key points of transition (such as between primary and secondary school), build up serious misconceptions, and/or have significant difficulties in understanding higher-order content. Pupils should be able to describe associated processes and key characteristics in common language, but they should also be familiar with, and use, technical terminology accurately and precisely. They should build up an extended specialist vocabulary. They should also apply their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data. The social and economic implications of science are important but, generally, they are taught most appropriately within the wider school curriculum: teachers will wish to use different contexts to maximise their pupils’ engagement with and motivation to study science.

EYFS - Understanding the World

ELG: The Natural World Children at the expected level of development will: - Explore the natural world around them, making observations and drawing pictures of animals and plants; Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class; - Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Key Stage 1	Lower Key Stage 2	Upper Key Stage 2
<p>The principal focus of science teaching in key stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about science should be done through the use of first-hand practical experiences, but there should also be some use of appropriate secondary sources, such as books, photographs and videos. ‘Working scientifically’ is described separately in the programme of study, but must always be taught through and clearly related to the teaching of substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content. Pupils should read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage 1.</p>	<p>The principal focus of science teaching in lower key stage 2 is to enable pupils to broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out. ‘Working scientifically’ must always be taught through and clearly related to substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content. Pupils should read and spell scientific vocabulary correctly and with confidence, using their growing word reading and spelling knowledge.</p>	<p>The principal focus of science teaching in upper key stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They should also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Pupils should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings. ‘Working and thinking scientifically’ is described separately at the beginning of the programme of study, but must always be taught through and clearly related to substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content. Pupils should read, spell and pronounce scientific vocabulary correctly.</p>

Working Scientifically - The nature, processes and methods of science

‘Working scientifically’ specifies the understanding of the nature, processes and methods of science for each year group. It should not be taught as a separate strand. The notes and guidance give examples of how ‘working scientifically’ might be embedded within the content of biology, chemistry and physics, focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions. These types of scientific enquiry should include: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources. Pupils should seek answers to questions through collecting, analysing and presenting data. ‘Working scientifically’ will be developed further at key stages 3 and 4, once pupils have built up sufficient understanding of science to engage meaningfully in more sophisticated discussion of experimental design and control.

<p>During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> ♣ asking simple questions and recognising that they can be answered in different ways ♣ observing closely, using simple equipment ♣ performing simple tests ♣ identifying and classifying ♣ using their observations and ideas to suggest answers to questions ♣ gathering and recording data to help in answering questions. 	<p>During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> ♣ asking relevant questions and using different types of scientific enquiries to answer them ♣ setting up simple practical enquiries, comparative and fair tests ♣ making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers ♣ gathering, recording, classifying and presenting data in a variety of ways to help in answering questions 	<p>During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> ♣ planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary ♣ taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate ♣ recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
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	<ul style="list-style-type: none"> ♣ recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables ♣ reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions ♣ using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions ♣ identifying differences, similarities or changes related to simple scientific ideas and processes ♣ using straightforward scientific evidence to answer questions or to support their findings. 	<ul style="list-style-type: none"> ♣ using test results to make predictions to set up further comparative and fair tests ♣ reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations ♣ identifying scientific evidence that has been used to support or refute ideas or arguments
<p>Plants</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ identify and name a variety of common wild and garden plants, including deciduous and of a variety of common flowering plants, including trees. <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ 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. 	<p>Plants</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ 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. 	
<p>Animals including Humans</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ 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. <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ 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. 	<p>Animals including Humans</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ 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. <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ 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. 	<p>Animals including Humans</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ describe the changes as humans develop to old age. <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ 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.
<p>Everyday Materials</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ distinguish between an object and the material from which it is made ♣ identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock ♣ describe the simple physical properties of a variety of everyday materials ♣ compare and group together a variety of everyday materials on the basis of their simple physical properties. 	<p>Rocks</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ compare and group together different kinds of rocks on the basis of their appearance and simple physical properties ♣ describe in simple terms how fossils are formed when things that have lived are trapped within rock ♣ recognise that soils are made from rocks and organic matter. 	<p>Properties and changes of Materials</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets ♣ know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution ♣ use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating ♣ give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic ♣ demonstrate that dissolving, mixing and changes of state are reversible changes ♣ explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.
<p>Uses of Everyday Materials</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ 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. 	<p>Light</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ recognise that they need light in order to see things and that dark is the absence of light ♣ notice that light is reflected from surfaces ♣ recognise that light from the sun can be dangerous and that there are ways to protect their eyes ♣ recognise that shadows are formed when the light from a light source is blocked by an opaque object 	<p>Light</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ 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

	♣ find patterns in the way that the size of shadows change.	♣ use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.
Seasonal Changes Pupils should be taught to: ♣ observe changes across the four seasons ♣ observe and describe weather associated with the seasons and how day length varies.	Forces and Magnets 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.	Earth and Space 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.
Living Things and their habitats 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 microhabitats ♣ 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.	Living Things and their habitats 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.	Living Things and their habitats 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. 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 microorganisms, plants and animals ♣ give reasons for classifying plants and animals based on specific characteristics.
	States of matter Pupils should be taught to: ♣ compare and group materials together, according to whether they are solids, liquids or gases ♣ observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) ♣ identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	Forces: 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.
	Sound 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.	Evolution and Inheritance 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
	Electricity 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.	Electricity 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.
Non-Negotiables	• ask simple questions • observe closely using simple equipment • perform simple comparative tests • identify, sort, group and classify • use my observations to help me suggest answers to questions • with guidance, begin to notice patterns and relationships • observe simple changes over time • find information using simple secondary sources	
	• ask simple questions and recognise they can be answered in different ways • observe closely using simple equipment • perform simple comparative tests • identify, sort, group and classify • use my observations to help me suggest answers to questions • gather and record simple data to help me answer questions • with guidance, begin to notice patterns and relationships • use simple secondary sources • observe changes over time • communicate ideas in a variety of ways	

	Autumn		Spring		Summer	
	<p>How do we keep ourselves healthy? Children will recap the names of basic body parts. They will learn how to and the importance of keeping clean as well as how medicines can help us keep health and the importance of a healthy diet.</p> <p>Understand Animals Including Humans(Human health) B8: Identify name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. B10: Investigate and describe the basic needs of animals, including humans, for survival (water, food and air). B11: Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene.</p>	<p>Where have all the leaves gone? Children will focus particularly on identifying types of tree and their structure. They will observe how the seasons can affect different types of tree in different ways</p> <p>Understand Plants B1: Identify and name a variety of common plants, including garden plants, wild plants and trees and those classified as deciduous and evergreen. B2: Identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers.</p> <p>Understand the Earth's Movement in Space P7: Observe changes across the four seasons. P8: Observe and describe weather associated with the seasons and how day length varies.</p>	<p>What are objects made from? Children will identify, classify and describe materials used to make a variety of objects. Children will explore materials such as glass, wood, plastic, metal and fabric.</p> <p>Investigating Materials - Everyday materials C1: Distinguish between an object and the material from which it is made. C2: Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock. C3: Describe the simple physical properties of a variety of everyday materials. C4: Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>	<p>What plants are in my local area? Children will explore the life cycles of various plants that grow from seeds and bulbs and investigate how they change as they develop.</p> <p>Understand Plants B1: Identify and name a variety of common plants, including garden plants, wild plants and trees and those classified as deciduous and evergreen. B2: Identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers. B3: Observe and describe how seeds and bulbs grow into mature plants.</p>	<p>Where do they belong in the animal kingdom? Children will learn about mammals, birds, reptiles, amphibians and fish. They will think about the needs of different animals and become familiar with the terms carnivore, herbivore and omnivore.</p> <p>Understand Animals Including Humans B5: Identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates. B6: Identify and name a variety of common animals that are carnivores, herbivores and omnivores. B7: Describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles, mammals and invertebrates, including pets). B10: Investigate and describe the basic needs of animals, including humans, for survival (water, food and air).</p>	<p>Who lives there? Exploring the difference between living and non-living things, children will then find out about habitats in familiar local areas (woodlands and ponds) before looking further afield from seaside to the Sahara. They will also explore micro-habitats.</p> <p>Investigate living Things B12: Explore and compare the differences between things that are living, that are dead and that have never been alive. B13: 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. B14: Identify and name a variety of plants and animals in their habitats, including micro-habitats. B15: Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p>
Resources	Body part labels, various PE equipment, fruit to taste, healthy eating plate, washing Hands Rhyme (FSD? activity only) Equipment: basins of cold water/cooking oil/glitter or cinnamon/paper towels	Inflatable Earth, weather symbols, calendars, leaves, examples of branches	Variety of rock, wood samples, plastics, metal, collection of everyday items made of different materials, teddy bear/character Investigation resources per group: a small bear, a plastic pot, an elastic band, a pipette, a pot with water in and 4 different (pre-cut) materials to test,	Samples of seeds, plants, magnifying glasses, tweezers, identifying trees/plants key/sheets, range of fruit, vegetables, bulbs and flowers,	Images of animals and their young, images of mammals, amphibians, birds and insects,	examples of plants, images of animals, plants and habitats
Vocabulary	Head, ear, eye, mouth, nose, leg, knee, arm, elbow, back Wings, beak, smell, sight, touch, hearing, taste, carbohydrate, protein, vitamins, dairy, fats and oils, diet, healthy, balanced, sugar, exercise, heart, pulse, eat, drink, bacteria, germs, hygiene, medicine, drugs, tablets, pills, hygiene , hygienic, germs , illness, disease , spread, wash, clean, sneeze, cough, soap, water	Tree, trunk, root, leaf, branch, bud, twig, flower, evergreen, deciduous, season, Autumn, Summer, Winter, Spring, month, year	Materials, wood, plastic, glass, metal, water, rock Describe, properties, hard, soft, stretchy, stiff, shiny, dull, rough, smooth, bendy, not bendy, waterproof, not waterproof, absorbent, not absorbent, opaque, transparent, Investigation, prediction, predict, watch, test, record, sensible, results, decision.	observe, measure, record, group, pattern, Plant, tree, coniferous, deciduous, roots, stem, flower, petal, seeds, leaves, growth, germination, bulb, blossom, fruit, vegetable,	Herbivore, Carnivore, Omnivore, mammal, reptile, amphibian, fish, bird.. Air, oxygen, breathe, water, food, diet , care, survival,	Dead, alive, habitat, animal, plant, died, living, group, survive, sort, group, organism, micro-habitat, prey, food chain, desert, coast, coastal, seaside, rock pool,
Flashback	<ul style="list-style-type: none"> Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices. 	<ul style="list-style-type: none"> Explore the natural world around them, making observations and drawing pictures of animals and plants The main parts of the body are the head, neck, eyes, ears, mouth, nose, shoulders, arms, elbows, wrists, hands, fingers, torso, hips, legs, knees, ankles, feet, toes. Animals need air, water, food, shelter to survive. 	<ul style="list-style-type: none"> Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. We need to have good hygiene, exercise and a balanced diet to lead healthy lives. The four seasons are Winter, Spring, Summer and Autumn. 	<ul style="list-style-type: none"> Explore the natural world around them, making observations and drawing pictures of animals and plants The weather and the length of the day changes in each of the seasons (examples given) Evergreen trees keep their leaves and colour all year round. 	<ul style="list-style-type: none"> Deciduous trees lose their leaves, which change colour, in the Autumn and Winter. Objects are made from materials, and they might have different names. (A t-shirt is made from fabric) names of materials including wood, plastic, glass, metal, water and rock. 	<ul style="list-style-type: none"> Materials can have different properties such as bendy, waterproof, transparent, strong, rigid, absorbent. The names of common flowering plants. That Plants can be grown from seeds or bulbs. Plants parts are called, seed, roots, stem, leaves, flower.

Lesson 1	<p>Year 1/2: To be able to identify, name and label body parts and identify some functions of these</p> <p>Activities: Children will identify and name several body parts and identify their location on their own bodies. They will then label and/or draw diagrams. Year 2 – explain the functions of these parts. Children could draw around themselves and label with chalk outside.</p> <p>Children will know: the name of various body parts. (Head, nose, eyes, ears, mouth, chin, neck, elbow, arms, hands, fingers, torso, legs, hips, feet, knees</p> <p>how to label various body parts.</p> <p>know the function of each of the body parts.</p>	<p>Year 1/2: To find out about different seasons and how to describe them.</p> <p>Activities: Children will describe the weather they can directly observe and other types of weather they know of. They will describe what the weather is normally like during different seasons, and what people might wear in different weather conditions.</p> <p>Children will know: the names of the four seasons.</p> <p>how the weather changes for each season</p> <p>that weather affects human activity</p>	<p>Year 1/2: To identify and name a variety of everyday materials</p> <p>Activities: Exploring different materials – labelling materials, describing materials – feely bag.</p> <p>Children will know: the name of different materials and match them to a picture/piece of material.</p>	<p>Year 1/2: To identify and name common flowering plants.</p> <p>Activities: Go on a local walk and identify and name a range of common flowering plants. These could be recorded through photographs or drawings. Children to label plants found when back in the classroom.</p> <p>Children will know: the differences in common flowering plants.</p> <p>the name of some common flowering plants.</p>	<p>Year 1/2: To be able to identify and name a variety of common animals.</p> <p>Activities: Children will identify, name and describe a variety of common animals kept as pets.</p> <p>Children will know: the names of a variety of animals.</p> <p>the names of various pets.</p>	<p>Year 1/2: To be able to identify things that are living, things that are dead and things that have never been alive.</p> <p>Activities: Children will begin to identify some life processes which indicate that animals and plants are alive. They will then identify and sort objects and organisms into groups: living and non-living things.</p> <p>Children will know: Some things that are alive, not a live and never been alive.</p>
Lesson 2	<p>Year 1/2: To identify what animals, including humans need for survival.</p> <p>Activities: Explore what sorts of things we and other animals need to stay alive. Investigate when we need these things and why?</p> <p>Children will know: the basic needs of animals.</p> <p>that humans are animal and also need these things for survival.</p> <p>when and how much of each element is required to survive.</p>	<p>Year 1/2: To identify and describe different tree types.</p> <p>Activities: Go around the village and spot different types of tree, identifying their names.</p> <p>Children will know: that there are different types of trees (deciduous and evergreen).</p> <p>the names of some common British trees.</p> <p>that trees have different types of leaves.</p>	<p>Year 1/2: To distinguish between an object and the material from which it is made</p> <p>Activities: Look at objects made from the same materials. Discuss materials and uses of the objects. Discuss the difference between the objects and the actual materials they are made from.</p> <p>Children will know: the name of specific objects.</p> <p>the materials which specific objects are made from.</p> <p>the difference between an object and the materials it is made from.</p>	<p>Year 1/2: To understand that different seeds grow into different plants and to describe them</p> <p>Activities: Children will learn about what a plant is, then either go plant hunting, or plant seeds. Children will look at seeds and seed packets and establish what can be learned from them and how best to plant and grow different seed types. They may then either design seed packets or plant seeds</p> <p>Children will know: seeds grow into plants</p> <p>the name of some plants that grow from seeds</p>	<p>Year 1/2: To be able to identify and compare a variety of common mammals, birds and reptiles.</p> <p>Activities: Children will compare the characteristics of a variety of mammals, birds and reptiles, then answer questions or describe animals in their own words.</p> <p>Children will know: the names of some birds.</p> <p>the name of some reptiles.</p> <p>The name of a range of mammals.</p>	<p>Year 1/2: To understand that living things need to live in suitable habitats.</p> <p>Activities: Children will learn about what a habitat is, and what animals and plants need to survive in them. They will then identify and group animals by their habitats.</p> <p>Children will know: what a habitat is.</p> <p>that animals and plants need to live in habitats they are suited to.</p> <p>some animals and their matching habitat.</p>
Lesson 3	<p>Year 1/2: To design a balanced meal</p> <p>Activities: Children sort a variety of foods (real) into the five food groups. – draw/cut and stick onto balanced meal plate. Year 2 children design a lunchbox ensuring all food groups are included</p> <p>Children will know: the five food groups.</p> <p>How to sort foods into food groups.</p> <p>how much of each food group they need to have for a balanced diet.</p>	<p>Year 1/2: To identify and name different parts of a tree.</p> <p>Activities: Examine a tree in the school grounds, using magnifying glasses look at the individual parts, children to label and draw a diagram based on their observations.</p> <p>Children will know: the name of the different parts of a tree.</p> <p>the function of these plants (begin to know)</p>	<p>Year 1/2: To describe the simple physical properties of a variety of everyday materials</p> <p>Activities: Recap vocabulary introduced. Children explore a range of objects made from different materials. Describe how they look and feel. Match card of properties to materials. Feely bag.</p> <p>Children will know: how to describe what materials look like.</p> <p>words which describe how materials feel.</p> <p>some of the properties of everyday materials</p>	<p>Year 1/2: To understand that plants can be grown from bulbs</p> <p>Activities: Children will learn about a variety of common garden plants, identify some of their features, and consider why they are appealing to people, e.g. easy to grow, or attracts insects. Children will learn about bulbs: their large food source, and the times of year at which they grow. They may then either undertake a sequencing activity to show bulb growth, or plant bulbs.</p> <p>Children will know: plants grow from seeds and bulbs</p> <p>the name of some plants that grow from bulbs</p> <p>why some plants need to grow from a bulb</p>	<p>Year 1/2: To be able to identify and compare a variety of common fish and amphibians.</p> <p>Activities: Children will consider similarities and differences between some fish and amphibians. They will also learn about some fish/amphibian life cycles and describe what they have learned in their own words.</p> <p>Children will know: the name of some types of fish.</p> <p>the name of some reptiles.</p> <p>the differences and similarities between reptiles and fish.</p>	<p>Year 1/2: To explore the plants and animals that live in seaside habitats.</p> <p>Activities: Children will identify features of seaside habitats and discuss which plants and animals might live in it, and where. They may then either identify and name a variety of organisms, or sort organisms into those found in seaside habitats, and those found in other habitats.</p> <p>Children will know: some animals in a seaside habitat.</p> <p>some plants in a seaside habitat.</p> <p>how animals and plants in a seaside habitat are linked together.</p>

Lesson 4	<p>Year 1/2: To find out why exercise is important to keep our bodies healthy.</p> <p>Activities: Children will consider the importance of exercise, and how different exercises, sports and activities affect different parts of the body. They may then either undertake a sorting activity, or plan a course of exercises.</p> <p>Children will know:</p> <p>that exercise is an important part of keeping our bodies healthy</p> <p>some of the changes that take place in our body when we exercise</p> <p>various ways they can exercise different parts of their bodies</p>	<p>Year 1/2: To observe and recognise how the seasons effect trees.</p> <p>Activities: Observe the differences between deciduous and evergreen trees. Do this by exploring the school grounds or the local village. Children to identify evergreen and deciduous trees.</p> <p>Children will know:</p> <p>that leaves change colour and fall off some trees in the autumn and winter.</p> <p>that there are evergreen and deciduous trees and will define these terms.</p>	<p>Year 1/2: To describe the simple physical properties of a variety of everyday materials</p> <p>Activities: Recap properties of materials. Some properties are easier to identify. Testing properties – bendy or not, transparency, waterproof, absorbency.</p> <p>Children will know:</p> <p>which materials the objects are made from.</p> <p>how test materials to see how they behave.</p> <p>which materials have certain properties</p>	<p>Year 1/2: To identify and describe wild plants.</p> <p>Activities: Children will identify some wild plants, and begin to consider how their seeds — which they grew from — came to be there. They will then sort, match or describe some wild plants.</p> <p>Children will know:</p> <p>the name of some wild plants</p> <p>the features of different wild plants</p> <p>the similarities and differences between plants</p>	<p>Year 1/2: To compare animals from the 5 vertebrate kingdoms.</p> <p>Activities: Children to complete a table, sorting animals from each group and identifying each of their features. They can draw pictures and label with phrases.</p> <p>Children will know:</p> <p>the names of some common animals from each group.</p> <p>which group an animal might be long to by observing its characteristics.</p>	<p>Year 1/2 : To be able to explore plants and animals in an unfamiliar habitat.</p> <p>Activities: Children will identify characteristics of animals which give clues about the habitats they live in. They will then discuss what a variety of habitats are like, then either describe what they provide for the organisms that live in them, or how organisms are adapted to suit their habitat.</p> <p>Children will know:</p> <p>different types of habitats.</p> <p>how to describe different types of habitats.</p> <p>How to compare habitats and the animals and plants that live in them.</p>
Lesson 5	<p>Year 1/2: To investigate how germs are transferred by touching things. (Germ investigation)</p> <p>Activities: Children will learn about the work of significant scientists who studied how diseases. They will then either create information texts about staying healthy, or explore how germs are transmitted using a scientific model.</p> <p>Children will know:</p> <p>How to use their own experiences to make predictions.</p> <p>Children can observe patterns.</p> <p>Children can talk about what they have found out.</p>	<p>Year 1/2: To identify and describe the features of evergreen and deciduous trees.</p> <p>Activities: Have a selection of leaves from both evergreen and deciduous trees. Children to observe and describe the key features of each type of tree. Children can complete a scientific drawing of examples for each.</p> <p>Children will know:</p> <p>that evergreen and deciduous trees have different features.</p> <p>what those features are.</p> <p>why these leaves might have those features (beginning to).</p>	<p>Year1/ 2: To perform simple tests and use observations and ideas to suggest answers to questions.</p> <p>Activities: introduce Ted and problem – he needs an umbrella making from a material which will protect him from getting wet. Show children the materials and model how to carry out, observe and record the observations to find the best material fit for purpose. Discuss findings – are children able to make a sensible decision?</p> <p>Children will know:</p> <p>how to record what they see.</p> <p>how to use their observations to suggest answers to questions.</p>	<p>Year 1/2: To identify and name the parts of common flowering plants which seeds can be dispersed?</p> <p>Activities – Using a range of plants children should carefully dissect them to observe and identify the names of each part of the plant. They can complete a scientific drawing of a chose plant and label each part.</p> <p>Children will know:</p> <p>that there are individual parts to plant.</p> <p>the names of different parts of a plant.</p> <p>the function of each part of the plant (beginning)</p>	<p>Year 1/2: To be able to identify and sort carnivores, herbivores and omnivores.</p> <p>Activities: Children will describe what a variety of different animals eat, then sort animals using Venn diagrams or tables.</p> <p>Children will know:</p> <p>different animals eat different things</p> <p>how to classify animals by what they eat in terms of carnivore, herbivore and omnivore</p>	<p>Year 1/2: To explore food chains in a habitat.</p> <p>Activities: Children will begin to understand how organisms in a habitat are dependent upon one another, and that these dependencies can be shown as food chains. They may then either complete given food chains, or try to make food chains from a given set of organisms.</p> <p>Children will know:</p> <p>that animals and plants in a habitat are dependent on each other for food.</p> <p>how to construct a simple food chain .</p> <p>humans are also included in some food chains.</p>
Lesson 6	<p>Year 1./2: To understand the role of drugs as medicines.</p> <p>Activities: Introduce children to the concept that medicines are drugs designed to keep us well and help us get better. Who needs medicines? - We all do. Who gives us medicines? Draw around a child on large piece of paper – list all the things we take into our bodies and write inside. Highlight the aspects that make our bodies better is</p>	<p>Year 1/2: To compare and classify features of evergreen and deciduous trees.</p> <p>Activities: Children to complete a Venn diagram to sort features of evergreen and deciduous leaves. Children need to recognise that some are common for both and some are particular for each type of tree.</p>	<p>Year 1/2: To compare and group together a variety of everyday materials on the basis of their simple physical properties</p> <p>Activities: Look at different objects – discuss how we could describe their properties. Using sorting circles/hoops, model how to label each circle e.g. rough and smooth. Ask children with a rough object to put it in the circle. Then ask children with a smooth object to put it in the other circle. Identify objects which are both rough and smooth. Where could we put them?</p>	<p>Year 1/2: To be able to explain why and how seeds are dispersed.</p> <p>Activities: Children will learn about fruits: The seeds they contain and some ways in which they are dispersed. They may then either study a variety of fruits or explain how seeds are dispersed in their own words.</p> <p>Children will know:</p> <p>why seeds need to be dispersed.</p>	<p>Year 1/2: To be able to take care of animals.</p> <p>Activities: Children will consider the needs of a variety of animals, and explain how best to care for them.</p> <p>Children will know:</p> <p>what an animals needs are.</p> <p>why it is important to take care of an animal.</p> <p>different animals need different things.</p>	

	<p>we are hurt or ill. Show variety of medicine boxes and bottles. What are the clues that show us they could be dangerous? Sort items into medicines and sweets. Discuss unlabelled bottles</p> <p>Children will know:</p> <p>the role of drugs as medicines.</p> <p>That there are hazards in materials, take action to reduce risks to themselves and others.</p>	<p>Children will know:</p> <p>and describe features of leaves.</p> <p>how to sort features into Venn diagrams.</p> <p>which features are common between both types of tree.</p>	<p>Model how to overlap the circles to include any objects which have both properties.</p> <p>Children will know:</p> <p>Which objects have the same properties.</p> <p>How materials can have some properties that are the same and some that are different.</p>	<p>why fruits have so many seeds.</p>	<p>Year 1/2: To collect data about animals and begin to answer questions.</p> <p>Activities: Children will collect, present and interpret data about animals from the 5 kingdoms.</p> <p>Children will know:</p> <p>the name a variety of animals .</p> <p>how to record information in a table or a graph.</p> <p>How to answer questions about their data.</p>	
Key Knowledge	<p>Children will know:</p> <ul style="list-style-type: none"> The main parts of the body are the head, neck, eyes, ears, mouth, nose, shoulders, arms, elbows, wrists, hands, fingers, torso, hips, legs, knees, ankles, feet, toes. Animals need air, water, food, shelter to survive. We need to have good hygiene, exercise and a balanced diet to lead healthy lives. 	<ul style="list-style-type: none"> The four seasons are Winter, Spring, Summer and Autumn. The weather and the length of the day changes in each of the seasons (examples given) Evergreen trees keep their leaves and colour all year round. Deciduous trees lose their leaves, which change colour, in the Autumn and Winter. 	<p>Children will know:</p> <ul style="list-style-type: none"> Objects are made from materials, and they might have different names. (A t-shirt is made from fabric) names of materials including wood, plastic, glass, metal, water and rock. Materials can have different properties such as bendy, waterproof, transparent, strong, rigid, absorbent. Materials can be groups based on similar and different properties. 	<p>Children will know:</p> <ul style="list-style-type: none"> The names of common flowering plants. That Plants can be grown from seeds or bulbs. Plants parts are called, seed, roots, stem, leaves, flower. That seeds disperse by the wind blowing them or on animals. 	<p>Children will know:</p> <ul style="list-style-type: none"> The names of animals from the 5 groups of vertebrates. Common characteristics for animals from each group. Carnivores eat meat, herbivores eat plants and omnivores eat both. 	<p>Children will know:</p> <ul style="list-style-type: none"> A habitat is a place where living things live. This is where they find shelter and food. Examples of habitats include, the forest, the desert, the artic tundra, the ocean. Animals are suited to different habitats. Animals and plants have specific characteristics to help support them in the environment that they live in.