

Curriculum Overview

Years 1-6

Subject: Science

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS areas	The World	Being imaginative	Health and self-care		The World	The World
EYFS objectives	Children know about similarities and differences in relation to places, objects, materials and living things.	Children use what they have learnt about materials in original ways, thinking about uses and purposes.	Children know the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe.		They talk about the features of their own immediate environment and how environments might vary from one to another	They make observations of animals and plants and explain why some things occur, and talk about changes
Enquiry Title Y1	Who is the magic toymaker?		What can we find in the past?		What will we find in the deep blue sea?	
Knowledge	Every day materials <ul style="list-style-type: none"> Make links between an object and the material from which it is made Identify and name a variety of everyday materials Describe the simple physical properties of a variety of everyday materials Compare and group together a variety of everyday 	Seasonal changes - revisited termly <ul style="list-style-type: none"> Observe changes across the four season Observe and describe weather associated with the seasons and how day length varies. 	Animals including humans <ul style="list-style-type: none"> Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals Understand the language of carnivores, herbivores and omnivores Describe and compare the structure of a variety of common animals. Identify parts of the human body and make links to senses. 		Plants <ul style="list-style-type: none"> Identify and name a variety of common wild and garden plants, including trees Identify and describe the basic structure of common flowering plants, including trees. 	
Skills	<ul style="list-style-type: none"> Classifying materials verbally Identifying similarities and differences between different materials Asking and answering simple questions about the physical properties of everyday materials Perform simple tests to compare the suitability of materials for different purposes 	<ul style="list-style-type: none"> Observation over time by keeping a journal of seasonal changes. Words and drawings Noticing patterns, making links with the season, weather and the changes around us. Communicate their ideas, what they do and what they find out in a variety of ways. Making predictions to the season and possible changes to the weather and nature. 	<ul style="list-style-type: none"> Use observations to answer questions about what makes an animal a fish, amphibians, reptiles, birds and mammals Notice patterns with our senses and how our body works e.g. shape of ear for hearing Communicate their ideas, what they do and what they find out in a variety of ways. Comparing the diet of carnivores, herbivores and omnivores. Make predictions based on knowledge of animals 		<ul style="list-style-type: none"> Observations over time, how does a seed become a seedling and then plant. Draw pictures and label Classifying plants including trees, wild plants and flowers based on what they can see. I know this is a tree because ... Identifying using secondary sources. Use books and videos to classify trees, wild plants and flowers. 	

Key Vocabulary	Sink, float, smooth, bumpy, stretch, shiny, dull, stiff Plastic, glass, wood, metal, fabric	Autumn, summer, spring, winter, day, night, evening, afternoon, morning, noon, midnight	Mammals, amphibians, reptiles, birds, fish, carnivores, herbivores, omnivores, shoulder, ear (hear), eyes (sight), lips, mouth, tongue (taste), nose (smell), heart, skin (touch/ feel), hands, finger, bones, toes, lips, back., leg, hair, foot, arm	Deciduous, evergreen, branches, trunk, root, leaf, blossom, bulb, seed, bud, flower, stem
Enquiry Title Y2	Is anybody out there?		What makes our world great?	How can we entertain you?
Knowledge	Uses of everyday materials <ul style="list-style-type: none"> Identify and compare the suitability of a variety of everyday materials, for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. 	Animals including human Term 2 and Term 3 <ul style="list-style-type: none"> Can notice that animals, including humans, have offspring which grow into adults Research and describe the basic needs of animals, including humans, for survival Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. Describe how animals obtain their food from plants and other animals, using a simple food chain 	Plants Term 4 <ul style="list-style-type: none"> Suitable temperature to grow and stay healthy. Observe and describe how seeds and bulbs grow into mature plants. Investigate how plants need water, oxygen and warmth (WOW) 	Living things and their habitats <ul style="list-style-type: none"> 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 How animals and their habitats depend on each other Identify and name a variety of plants and animals in their habitats
Skills	<ul style="list-style-type: none"> Observations over time, what material is most suitable for a particular use. Use observations to answer questions linked to above - Why is that material better than that one for ... use Perform simple tests - what happens if ...? Gather and record data. Show results in a table Communicate their ideas, what they do and what they find out in a variety of ways. 	<ul style="list-style-type: none"> Ask simple questions about animals basic needs Identify and classify animals based on offspring, lay an egg, give birth Use observations to answer questions, what happens when humans exercise? What happens when humans over or under eat? What happens when humans and not hygienic? Noticing patterns, creating more than one simple food chain including plants and comparing them 	<ul style="list-style-type: none"> Perform simple test - what would happen if you changed the temperature? Gather and record data Use observations to answer questions link to the observing of the seed/ bulb growing. Simple bar graph to compare different growing places. Communicate their ideas, what they do and what they find out in a variety of ways. Create their own experiment linked to temperature, where do they want to put the plant to change the temperature. 	<ul style="list-style-type: none"> Identify and classify using secondary sources - use books and video to explore and compare different habitats and what animals live there and why? Asking and answering simple questions linked to animals and their dependency of the habitat Communicate their ideas, what they do and what they find out in a variety of ways. Investigate a particular habitat as a study, identify plants and animals that live in that habitat

		<ul style="list-style-type: none"> Communicate their ideas, what they do and what they find out in a variety of ways. 			
Key Vocabulary	squashy, absorbent, opaque, brittle, rigid, transparent, rough, soft, bendy, waterproof,	Survival, offspring, hygiene, nutrition, reproduction	Deciduous, evergreen, branches, trunk, root, leaf, blossom, bulb, seed, bud, flower, stem, water, light, temperature, germination, reproduction	Habitats, micro-habitats, food chain, shelter, conditions	
Enquiry Title Y3	Why did our ancestors need to scavenge and which factors made them into settlers?		What makes the Earth so active and what impact does it have on humans?	Why was the age of Ancient Greece described as Golden?	
Knowledge	Animals including humans <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. 	Rocks <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 Recognise that soils are made from rocks and organic matter. 	Forces <ul style="list-style-type: none"> 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 	Plants <ul style="list-style-type: none"> Identify and describe the functions of different parts of flowering plants Explore the requirements of plants for life and growth 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. 	Light <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 a solid object Find patterns in the way that the size of shadows change.
Skills	Identifying differences, similarities or changes by looking at animals with and without skeletons - How do they move? Where do they live? Using straightforward scientific evidence to answer questions or	Ask relevant questions about how fossils are formed Setting up simple practical enquiries, to compare different rock types	Investigate how things move on different surfaces by asking relevant questions link to force of attraction Gather, record, classify and present data to show materials and objects that are attracted or repelled to magnets	Setting up simple practical enquiries, comparative and fair tests based on MRS GREN - withdraw a need and compare the results	Making systematic and careful observations by recording the position of shadows dependent on where the sun appears to be in the sky

	to support their findings linked to nutrition and the different food groups	Recording findings using simple scientific language, drawings and labelled diagrams of rocks. Create a table to sort and classify different rocks Using straightforward scientific evidence to answer questions linked to the formation of soil	Using results to draw simple conclusions about materials that are attracted or repelled by a magnet. Make predictions for untested materials Using straightforward scientific evidence to answer questions based on magnetic poles and force of attraction	Take appropriate and accurate measurements when completing the above Making systematic and careful observations to investigate how water is transported. Record findings. Recording the function of different parts of a flower using a labelled diagrams Using straightforward scientific evidence to answer questions based on pollination, seed formation and seed dispersal	Taking appropriate and accurate measurements with the above Reporting on findings from enquiries and display findings in a bar graph Explain how shadows sizes change Using straightforward scientific evidence to answer questions or to support their findings based on light and dark and how we see. Completed a labelled diagram to show how we see
Key Vocabulary	Nutrition, hinge, socket and ball, nutrients, skeleton, muscles, support, protect, movement, vertebrates, exoskeleton, endoskeleton, carbohydrates, fats, proteins, vitamins and minerals, fibre, water	Fossils, organic matter, erosion, minerals, microorganisms, sedimentary, metamorphic or igneous	Magnetic field, north and south pole, repel, attract, force, magnetism,	Root, stem, leaves, flowers, carpel/ pistil, style, petal, stigma, anther, stamen, filament, sepal, ovary, eggs/ovules, air, light, water, nutrients, soil, transportation, pollination, seed formation, seed dispersal, chlorophyll, photosynthesis	Reflection, reflective surfaces, shadow, light source, emit, reflect, opaque, translucent and transparent
Enquiry Title Y4	How did the Romans make their mark in world history?		What were the wonders of the Ancient Egyptian temples, tombs and treasures?	Why does the world need rainforests?	
Knowledge	Animals including humans Describe the simple functions of the basic parts of the digestive system in humans Identify the different types of teeth in humans and their simple functions	Living things and their habitats Recognise that living things can be grouped in a variety of ways Explore and use classification keys to help	Sound Identify how sounds are made 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	Electricity Identify common appliances that run on electricity Construct a simple series electrical circuit, identifying and naming its basic parts	States of matter Compare and group materials Observe that some materials change state when they are heated or cooled

	Construct and interpret a variety of food chains, identifying producers, predators and prey.	group, identify and name a variety of living things Recognise that environments can change and that this can sometimes pose dangers to living things.	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	Identify whether or not a lamp will light in a simple series circuit 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	Identify the part played by evaporation and condensation in the water cycle
Skills	Recording findings using simple scientific language and a labelled diagrams of the digestive system Setting up simple practical enquiries, comparative and fair tests linked to teeth, perhaps show teeth decaying in different ways Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions about food chains, identifying producers, predators and prey.	Recording findings using a classification key to group, identify and name Identifying differences, similarities or changes related to simple scientific ideas and processes with environmental changes Gathering, recording, classifying and presenting data to group living things in a variety of ways Using straightforward scientific evidence to answer questions or to support their findings	Asking relevant questions about how sound is made Making systematic and careful observations Take appropriate, and accurate measurements with how sound travels through different mediums Gathering, recording and presenting data in a to show how sound travels in a table and a line graph Using straightforward scientific evidence to answer questions or to support their findings about how pitch and the object is related	Asking relevant questions about how electricity works and travels Setting up simple practical enquiries to show a simple circuit Making systematic and careful observations to predict if a circuit will work or not Using straightforward scientific evidence to answer questions or to support their findings on conductors and insulators	Asking relevant questions and using different types of scientific enquiries to answer them about the water cycle Setting up simple practical enquiries, comparative and fair tests to group materials Making systematic and careful observations on materials changing state when heated or cooled Take appropriate, and accurate measurements to show when materials change state - water, ice, steam. Using straightforward scientific evidence to answer questions or to support their findings
Key Vocabulary	large intestine, organ, function, maintain, oesophagus, stomach, small intestine, large intestine,	Interdependence, conservation, similarities, differences, mammals,	Pitch, vibrations, tone, frequency	Components, voltage, batteries, series circuit, parallel circuit, current,	Solid, liquid, gases, evaporation, condensation, particles

	saliva, stomach, nutrients, bloodstream, undigested, incisors, canines, Pre-molars, molars, primary consumer, producer, secondary consumer	fish, species, kingdoms, characteristics, diverse, animals, plants, fungi, prokaryotes and protista		short circuit, circuit, resistance, conduct, insulate	
Enquiry Title Y5	Why is WW1 known as the Great War?		What made the Vikings the ultimate warriors of the sea?	Where does the river flow?	
Knowledge	Living things and their habitats <ul style="list-style-type: none"> 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. 	Earth and Space <ul style="list-style-type: none"> 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. 	Properties and changing Materials <ul style="list-style-type: none"> Compare and group together everyday materials on the basis of their properties 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 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 	Forces <ul style="list-style-type: none"> Explain that unsupported objects fall towards the Earth because of the force of gravity Identify the effects of air resistance, water resistance and friction Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. 	Animals including humans <ul style="list-style-type: none"> Describe the changes as humans develop to old age.
Skills	Recording data and results of increasing complexity using scientific diagrams. Create a classification key for plants and animal. Link to outside learning. Draw two different life cycles and compare then looking for similarities and differences.	Recording data and results of increasing complexity using scientific diagrams show findings in a line graph to show suns movement across the sky to demonstrate day and night Reporting and presenting findings from enquiries, including conclusions,	Planning different types of scientific enquiries Recognising and controlling variables where necessary Taking measurements, using a range of scientific equipment, with increasing accuracy and precision Identifying scientific evidence that has been used to support or refute ideas or arguments.	Planning different types of scientific enquiries linked to gravity and different objects falling Recognising and controlling variables where necessary Taking measurements, using a range of scientific equipment, with increasing accuracy and precision	Report and present findings from enquiries linked to measuring average height of children at different ages. Interpret graphs and then create a scatter graph with line of best fit. Adding own data collected in class.

	Identifying scientific evidence that has been used to support or refute ideas or arguments.	causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations to show understanding of how the planets move in relation to each other Identifying scientific evidence that has been used to support or refute ideas or arguments about how the sun, moon and earth move in relationships with each other.		problem solving with pulleys, levers and gears. Using test results to make predictions to set up further comparative and fair tests link to gravity - if this is true then this must also be true ... Identifying scientific evidence that has been used to support or refute ideas or arguments.	Draw a conclusion and explain ideas behind rational. Identifying scientific evidence that has been used to support or refute ideas or arguments.	
Key Vocabulary	Metamorphosis, reproduction, species, fertilisation, larval, characteristics, inherited, organism, generations, DNA, environment, Genes, evolve	Solar system, orbiting, sustain life, Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, revolution, leap year, axis, crust, core, mantle, plates, fault lines, molten rock, magma, erosion, lunar, eclipse, gravity, solar, tide	Evaporating, condensation, changing state, solidification, filtering, melting, sieving, dissolving, reversible, irreversible, chemical changes, physical changes, reaction, molecules, permeable, viscosity, density, buoyancy, conduct, insulate, transparent, translucent, opaque, magnetism, compressed, volume,	Gravity, air resistance, friction, gravitational pull, Newton meter, mass, tension, water resistance, pulleys, gears, levers	Foetus, toddler, teenager, adulthood, pensioner, ovum, life cycle, reproduction, metamorphosis	
Enquiry Title Y6	What was 15th century Britain like compared to 15th century central America?		What was life like during WW2?		What could we discover on a North American road trip?	
Knowledge	Living things and their habitats • Describe how living things are classified into broad groups according to common observable characteristics	Animals including humans • Identify and name the main parts of the human circulatory system • Recognise the impact of diet, exercise, drugs and lifestyle on the way	Evolution and inheritance • Recognise that living things have changed over time and that fossils provide • information • Recognise that living things produce offspring of the same	Light • Recognise that light appears to travel in straight lines • Use the idea that light travels in straight lines to explain how objects are seen	Electricity • Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used • Compare and give reasons for variations in how components	Plus: Science sessions at Abbey Park Revision of subjects previously taught
Units not taught in any particular order but to fit in with revision and sessions at Abbey Park						

	<ul style="list-style-type: none"> Give reasons for classifying plants and animals based on specific characteristics. 	<p>their bodies function</p> <ul style="list-style-type: none"> Describe the ways in which nutrients and water are transported within animals, including humans. 	<p>kind, but normally offspring vary and are not identical to their parents</p> <ul style="list-style-type: none"> Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. 	<ul style="list-style-type: none"> Explain how we see things Use the idea that light travels in straight lines to explain shadows and the objects that cast them. 	<p>function,</p> <ul style="list-style-type: none"> Use recognised symbols when representing a simple circuit in a diagram. 	
Skills	<p>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. Group presentation of common characteristics and how a particular species is classified.</p> <p>Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. Link to the five kingdoms.</p>	<p>Reporting and presenting findings from enquiries, including conclusions to explain the way nutrients and water are transported within the human and animals bodies. other presentations</p> <p>Taking measurements, using a range of scientific equipment, with increasing accuracy and precision children to take part in an exercise investigation linking with the impact of their body after different exercise. Display findings in a line graph and analyse the results</p> <p>Recording data and results of increasing complexity using scientific diagrams and labels of the circularity system</p>	<p>Using test results to make predictions to set up further comparative and fair tests inked to living things changing over time. Link to Darwin's finches.</p> <p>Recording data and results of increasing complexity using scientific language and secondary sources to demonstrate understanding of inheritance</p> <p>Identifying scientific evidence that has been used to support or refute ideas or arguments linked to adaption and evolution.</p>	<p>Planning different types of scientific enquiries to demonstrate how light travels. Show results in a table and explain findings</p> <p>Using test result from the above to make further predictions to set up further comparative and fair tests</p> <p>Recognising and controlling variables where necessary</p> <p>Identifying scientific evidence that has been used to support or refute ideas or arguments inked to shadows and how they are cast. Recording data and results of increasing complexity using scientific diagrams and labels to demonstrate the above.</p>	<p>Report and present findings from enquiries, including explanations of why a circuit will or won't work.</p> <p>Recognising and controlling variables where necessary - how can you make the comparison of circuits fair?</p> <p>Identifying scientific evidence that has been used to support or refute ideas or arguments linked to how a circuit works successfully.</p> <p>Recording data and results of increasing complexity using scientific diagrams and labels linked to a circuit.</p> <p>Use a table to compare and give reasons for variants with different circuits.</p>	

Key Vocabulary	Diversity, classify, common characteristics, conservation, organisms, animals, plants, fungi, prokaryote and protocista,.kingdoms	Heart, pulse, blood vessels, arteries, oxygen, veins, carbon dioxide, capillaries, respiration, organs, digestion, Nutrients, mouth, oesophagus, stomach, small intestine, large intestine, chemicals in saliva, stomach, particles, nutrients, absorbed, bloodstream, undigested matter,	Igneous, sedimentary, metamorphic, fossils, evolution, organism, adaptation, habitat, survive, climate, evolution, natural selection, offspring, mutation, ancestor, diverse, generation, adaptations,	Refraction, energy, axis, solar eclipse, lunar eclipse, light source, reflection, shadows, straight lines	Brightness, loudness, circuit, components, symbol, buzzer, bulb, switches, voltage, electrons, conductors, resistor, series circuit, parallel circuit	
-----------------------	---	---	--	---	---	--