



St Patrick's Science Curriculum Progression Map

Statutory Framework for the EYFS ELG – Understanding the World	National Curriculum Subject Content for Key Stage 1:	National Curriculum Subject Content for Lower Key Stage 2:	National Curriculum Subject Content for Upper Key Stage 2:
<p>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.</p> <p>Below, we outline how we meet and go beyond the requirements</p>	<p>Working scientifically 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>Year 1 programme of study</p> <p>Plants 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 evergreen trees ♣ identify and describe the basic structure of a variety of common flowering plants, including trees <p>Animals, including humans 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 	<p>Working scientifically 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 ♣ 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. <p>Year 3 programme of study</p> <p>Plants 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 	<p>Working scientifically 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 ♣ 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 a 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>Year 5 programme of study</p> <p>Living things and their habitats Pupils should be taught to:</p> <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 <p>Animals, including humans Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ describe the changes as humans develop to old age <p>Properties and changes of materials Pupils should be taught to:</p>

	<p>carnivores, herbivores and omnivores</p> <ul style="list-style-type: none"> ♣ 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>Everyday materials 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>Seasonal changes Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ observe changes across the 4 seasons ♣ observe and describe weather associated with the seasons and how day length varies <p>Year 2 programme of study</p> <p>Living things and their habitats Pupils should be taught to:</p> <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 and describe how different 	<p>seed dispersal</p> <p>Animals, including humans 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>Rocks 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>Light 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 ♣ find patterns in the way that the size of shadows change <p>Forces and magnets Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ compare how things move on different surfaces ♣ notice that some forces need contact between 2 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 2 poles ♣ predict whether 2 magnets will attract or repel each other, depending on which poles are facing <p>Year 4 programme of study</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>Earth and space Pupils should be taught to:</p> <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 <p>Forces Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ 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 <p>Year 6 programme of study</p> <p>Living things and their habitats</p>
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	<p>habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other</p> <ul style="list-style-type: none"> ♣ 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 <p>Plants</p> <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>Animals, including humans</p> <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>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>Living things and their habitats</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ 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 <p>Animals including humans</p> <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>States of matter</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ 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 <p>Sound</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ 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 <p>Electricity</p> <p>Pupils should be taught to:</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ 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 <p>Animals including humans</p> <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>Evolution and inheritance</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ 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 <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 ♣ use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them <p>Electricity</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ♣ associate the brightness of a lamp or the volume of a
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	<p>Below, we outline how we meet and go beyond the National Curriculum requirements throughout Key Stage 1</p>	<ul style="list-style-type: none"> ♣ 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 <p>Below, we outline how we meet and go beyond the National Curriculum requirements throughout Lower Key Stage 2</p>	<p>buzzer with the number and voltage of cells used in the circuit</p> <ul style="list-style-type: none"> ♣ 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 <p>Below, we outline how we meet and go beyond the National Curriculum requirements throughout Upper Key Stage 2</p>
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Key Vocabulary							
Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<u>Seasonal changes:</u> Cloudy, snow, sun, rain, weather, hot, cold, light, dark <u>Animals including humans:</u> baby, caterpillar, butterfly <u>Plants:</u> grass, flower, tree, seeds, growing, plant <u>Living things and their habitats:</u> farm, garden, bird, animal, insect <u>Materials:</u> wet, dry, hard, soft	<u>Science skills:</u> question, predict <u>Seasonal changes:</u> Cloudy, snow, sun, rain, weather, hot, cold, warm, icy, light, dark, season, spring, summer, autumn, winter <u>Animals including humans:</u> baby, caterpillar, butterfly, egg, hatch, change, body, fur, feathers <u>Plants:</u> grass, flower, tree, seeds, growing, plant, seed, stem, leaves, petals <u>Living things and their habitats:</u> farm, garden, bird, animal, insect, dead, alive, growth, habitat <u>Materials:</u> wet, dry, hard, soft, ice, melt, freeze, float, sink	<u>Science skills</u> equipment, measure, observe, results, test <u>Plants</u> bulb, stem, trunk, root, flower, evergreen, coniferous, deciduous, plant, fruit, leaves, branches, petals, fruit <u>Animals inc humans</u> feathers, fur, skin, pets, wild animals, touch, smell, hear, taste, see <u>Materials</u> absorbent, material, stretchy, stiff, rough, smooth, shiny, dull, metal, wood, glass, wood, plastic, water <u>Seasonal changes</u> seasons, Spring, Summer, Autumn, Winter. ...and revisit words from Reception year.	<u>Science skills</u> describe, difference, group, patterns, similar <u>Living things and their habitats</u> woodland, pond, meadow, dead, alive, food chain, grow, habitat, microhabitat, shelter, suited <u>Plants</u> damp, dry, earth, growth, seedling, shoot, wither, bulb, seed, stem, trunk <u>Animals in humans</u> adult, baby, toddler, child, adolescent, life cycle, growth, offspring, exercise, healthy, hygiene, survival, basic needs <u>Uses of materials</u> fluid, gas, liquid, malleable, opaque, reflective, opaque,	<u>Science skills</u> accurate, question, careful, comparative, data logger, results, fair test, gather, prediction, record, thermometer, scientific enquiry <u>Plants</u> dispersal, formation, transported, life cycle, nutrients, pollination, root, pollinator, stigma, stamen, ovary <u>Animals inc humans</u> carbohydrates, fibre, fat, muscles, protection, protein, skeleton, skull, vertebra, tendons, vertebrate, invertebrate, exoskeleton, endoskeleton, herbivore, omnivore, carnivore <u>Rocks</u>	<u>Science skills</u> conclusion, identify, classify, evidence, keys, increase, decrease, present, sort <u>Living things and their habitats</u> amphibians, birds, classification key, classify, environment, fish, human impact, invertebrates, mammals, reptiles, sort, vertebrates <u>Animals inc humans</u> canine, carnivore, consume, food chain, herbivore, incisor, intestines, molar, nutrients, oesophagus, omnivore, predator, prey, producer, small intestine, stomach <u>States of matter</u> air, condensation, condense, degrees	<u>Science Skills</u> causal relationships, controlled variable, data, evidence, dependent variable, degree of trust, independent variable, line graph, present, scatter graph, variables <u>Living things and their habitats</u> asexual, sexual, germination, live young, pollen, reproduction, stamen, stigma <u>Animals inc humans</u> Drugs, diet, exercise, infant, toddler, child, adolescent, puberty, middle age, old age, gestation <u>Properties and changes of materials</u> change state, dissolve,	<u>Science Skills</u> accuracy, evidence, identify, opinion, fact, order, precision, secondary sources, support, refute, types of scientific enquiry <u>Living things and their habitats</u> arachnid, Carl Linnaeus, class, classification, crustacean, fungus, micro-organism, organism <u>Animals inc humans</u> absorb, blood, blood vessel, circulatory system, carbon dioxide, drugs, large intestine small intestine, oxygen <u>Evolution and Inheritance</u> adapted, adaptation, characteristics, Darwin, environment,

			<p>property, rigid, solid, transparent, translucent.</p> <p>...and revisit words from Year 1.</p>	<p>crystals, fossils, grains, organic matter</p> <p><u>Light</u> block, dark, direction, light source, opaque, reflect, shadow, transparent, translucent</p> <p><u>Forces and magnets</u> attract, force, magnet, poles, repel</p>	<p>Celcius, evaporate, evaporation, freeze, gas, liquid, melting point, solid, solidify, states of matter, transpiration, water cycle, water vapour</p> <p><u>Sound</u> pitch, volume, travel, sound source, high, low</p> <p><u>Electricity</u> battery, bulb, buzzer, cell, circuit, component, conductor, crocodile clip, insulator, positive, negative, switch, wire.</p> <p>...and revisit words from Year 3.</p>	<p>electrical conductivity, filter, insoluble, new material, non reversible, particle, residue, sieving, solubility, soluble, thermal conductivity</p> <p><u>Forces</u> air resistance, effort, friction, fulcrum, gravity, lever, load, mechanism, transfer, water resistance</p> <p><u>Earth and Space</u> Earth, geocentric, heliocentric, Jupiter, Mars, Mercury, Moon, Neptune, orbit, planets, revolve, rotate, rotation, Saturn, Solar System, spin, Sun, Uranus, Venus.</p> <p>...and revisit words from Year 4.</p>	<p>evolve, evolution, fossil, generation, genes, inherit, inheritance, offspring, parent, suited, vary, variation</p> <p><u>Light</u> absorb, reflect, reflective, shadow, transparent, translucent, opaque</p> <p><u>Electricity</u> circuit diagram, circuit symbol, component, conductor, motor, positive, precaution, negative, switch, terminal, variation, volume, voltage.</p> <p>...and revisit words from Year 5.</p>
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Significant Figures within Science and planned Enrichment Opportunities

All children within the school have the opportunity to take part in a sequence of Forest School sessions during their school career.

There are many extra-curricular opportunities for children to further develop and apply scientific learning including Eco Club and Science and Geography club.

Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><i>Seasonal change and weather</i></p> <p>Exploring the effects of forces such as the wind and gravity through play.</p> <p>Gardening throughout the year. Lifecycles: <u>butterflies</u> (and ducks).</p> <p>Small world play.</p> <p>Exploring materials and how they change.</p>	<p><i>Seasonal change and weather</i></p> <p>Investigating the effects of forces such as the wind and gravity through play.</p> <p>Gardening throughout the year. Lifecycles: ducks (and butterflies).</p> <p>Small world play.</p> <p>Investigating materials and how</p>	<p><i>Seasonal change and weather</i></p> <p>Everyday materials: Leonardo da Vinci study</p> <p>Animals including humans: Dr. Ranj</p> <p>Reptile time visit</p> <p>Plants: Jane Colden</p> <p>Palm house visit</p>	<p>Everyday materials: John Dunlop study</p> <p>Living things and their habitats: David Attenborough</p> <p>Animals take over visit</p> <p>Plants: Beatrix Potter</p> <p>Animals including humans: Noel Fitzpatrick</p> <p>Woodland and beach</p>	<p>Forces and magnetism: Isaac Newton</p> <p>Light: Thomas Edison</p> <p>Rocks: Marie Tharp</p> <p>Thurstaston Beach trip</p> <p>Plants: Guranda Gvaladze Kenyon</p> <p>Farm trip</p> <p>Animals including humans: Dr Ami visit</p>	<p>Electricity: Nikola Tesla study</p> <p>Sound: John King, local sound engineer</p> <p>Specialist science teacher</p> <p>States of matter: Deborah Jin</p> <p>Animals including humans: Dr Frances Hillier Brown</p> <p>Liverpool life sciences trip</p>	<p>Forces: Edith Clarke</p> <p>Earth and space: Maggie Aderin</p> <p>Pocock Study</p> <p>Planetarium trip</p> <p>Properties and changes of materials: Ruth Benerito</p> <p>Living things and their habitats: Diane Fossey Specialist science teacher</p> <p>Animals including</p>	<p>Electricity: Albert Einstein & Marie Curie</p> <p>Light: Elsa Garmire</p> <p>Light show at Catalyst museum trip</p> <p>Living things and their habitats: Carl Linneaus Statue Trip</p> <p>Evolution and inheritance: Rosemary Grant</p> <p>Shrewsbury Trip</p>

Pond dipping. Cooking a range of foods. Visits to different habitats in the school grounds. <i>Scientists within our school (Mrs Rogers, Tommy etc.)</i> <i>Reptile Time visit</i> <i>Squash Trip</i> <i>Farm visit</i> <i>Visit from GP</i>	they change. Pond dipping. Cooking a range of foods. Visits to different habitats in the school grounds and local area. <i>Scientists within our school (Mrs Rogers, Tommy etc.)</i> <i>Reptile Time visit</i> <i>Squash Trip</i> <i>Farm visit</i> <i>Visit from GP</i> <i>Recycling Discovery Centre Trip</i> <i>Formby Red Squirrels Trip</i> <i>Safari Park Trip</i>		trip Seasonal video calls with farmer		Living things and their habitats: <i>Charles Darwin Zoo</i> trip	humans: <i>Jane Goodall</i> study Dr Ami visit	<i>Har Gobind Khorana</i> Study Animals including humans: Dr Ami visit
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	Knowledge and understanding	Skills
Nursery	To name different types of weather. To know plants and animals grow and change - To begin to understand life cycle of plants and animals.	To talk about what they see, using a wide vocabulary e.g. naming familiar animals, natural objects and materials. To explore how things work. To talk about the differences between materials and changes they notice. To care for growing plants.
Reception	To understand some important processes and changes in the natural world around them, including the seasons and changing states of matter - e.g. to name and simply describe features of the four seasons, to know key features of the life-cycle of a plant, butterfly and bird, to describe melting and freezing, floating and sinking.	To explore the natural world around them making observations and drawing pictures of animals and plants. To comment and ask questions about aspects of their familiar world such as the place where they live or the natural world. To talk about why things happen and how things work (e.g. materials and changes). To describe their immediate environment using knowledge from observation.
Year 1	To name some deciduous and evergreen trees. To identify and group deciduous and evergreen trees. To identify parts of a tree. To describe the structure of trees. To name some common wild and garden flowers. To identify parts of a flower. To describe the structure of flower. To compare some of the plants To. To identify and name animals including fish, amphibians, reptiles, birds and mammals and those kept as pets. To identify and name some common carnivores, herbivores and omnivores. To describe the bodies of common animals including fish, amphibians, reptiles, birds and mammals. To compare the bodies of common animals including fish, amphibians, reptiles, birds and mammals. To identify, name, draw and label basic parts of the human body. To identify which part of the body is associated with each sense. To observe changes across the four seasons. To observe weather associated with the seasons and how day length changes. To	To ask simple questions. To observe closely using simple equipment. To suggest answers to questions based on what I have observed. To perform a simple test. To identify plants, animals and materials. To compare plants, animals and materials. To gather data to answer a question. To record data to answer a question.

	<p>describe weather associated with the seasons and how day length changes. To that it is not safe to look at the Sun, even when wearing sunglasses.</p> <p>To what an object is called and what it is made from.</p> <p>To name a variety of different materials (including wood, plastic, glass, metal, water and rock). To describe the properties of some materials. To compare and group different materials based on their properties.</p>	
Year 2	<p>To observe and describe the lifecycle of a seed and bulb. To investigate what plants need to grow and stay healthy. To investigate and describe what a seed needs to germinate. To describe what plants need to grow and stay healthy. To observe how different plants grow. To what a plant needs to germinate, grow, survive and reproduce. To that animals, including humans have offspring that grow into adults.</p> <p>To recognise some of the signs of growth (e.g. egg, chick, chicken, egg or baby, toddler, child, teenager, adult. To find out about the basic needs of animals, including humans, for survival.</p> <p>To describe the basic needs of humans, for survival (water, food and air).</p> <p>To describe the importance of exercise for humans. To describe the importance of eating the correct amounts of different types of food.</p> <p>To describe the importance of hygiene.</p> <p>To some parts of the process of reproduction in humans and animals. To some of the process of growth in humans and animals. To explore the differences between things that are living, dead and things that have never been alive (e.g. is a flame alive? Is a tree dead in winter?).</p> <p>To compare the differences between things that are living, dead and things that have never been alive. To identify that living things live in habitats to which they are suited.</p> <p>To describe how different habitats provide for the basic needs of different kinds of plants and animals.</p> <p>To describe how plants and animals within a habitat depend on each other.</p> <p>To identify and name plants and animals within a habitat (including microhabitats e.g. woodlice under a log.) To describe how an animal gets their food from plants and other animals.</p> <p>To use a food chain. To identify and name different sources of food.</p>	<p>To ask simple questions.</p> <p>To observe closely using simple equipment. To know that questions can be answered in different ways. To suggest answers to questions based on what I have observed.</p> <p>To perform a simple test.</p> <p>To identify plants, animals, habitats and materials.</p> <p>To compare plants, animals, habitats and materials.</p> <p>To gather data to answer a question. To record data to answer a question.</p> <p>To use simple equipment.</p>
Year 3	<p>To compare how things move on different surfaces. To that some forces need contact between two objects.</p> <p>To describe the effects of simple forces that do not involve contact (magnetic forces including those between like and unlike poles).</p> <p>To that magnets can attract or repel each other.</p> <p>To that magnets attract some materials but not others.</p> <p>To compare and group everyday materials based on whether they are attracted to a magnet.</p> <p>To identify some magnetic materials. To describe magnets as having two poles. To predict whether two magnets will attract or repel, depending on which poles are facing. To know that I need light to see things. To know that darkness is the absence of light.</p> <p>To notice that light is reflected from surfaces.</p> <p>To that light from the Sun can be dangerous.</p>	<p>To ask relevant questions. To conduct a scientific enquiry to answer my own questions.</p> <p>To set up a simple scientific enquiry. To make careful observations. To take accurate measurement using standard units of measure.</p> <p>To use data loggers. To gather data to answer a question. To record data to answer a question. To report findings using simple scientific language. To report findings using drawings. To report findings using labelled diagrams.</p> <p>To report findings using a table. To report findings from an enquiry orally and in a written conclusion. To use results to draw a simple conclusion. To use results to make a prediction for further values. To identify difference, similarities and changes related to simple scientific ideas.</p> <p>To use scientific evidence to answer a question and support my findings.</p>

	<p>To ways to protect my eyes from sunlight.</p> <p>To use the idea that light travels from a light source, or reflected light, travels in straight lines to explain the formation and size of shadows. To compare different rocks based on their appearance and their physical properties. To group and identify different rocks based on their appearance and their physical properties. To use magnifying glasses to identify and classify rocks according to whether they are made of grains or crystals. To describe how fossils are formed. To recognise that soils are made from rocks and organic matter.</p> <p>To find out about the work of palaeontologists e.g. Mary Anning.</p> <p>To explore different soils and identify similarities and differences between them.</p> <p>To that animals, including humans, need the right types and amounts of nutrition. To that animals cannot make their own food.</p> <p>To that humans and some other animals have skeletons for support, protection and movement. To name and describe the functions and main parts of the musculoskeletal system in humans. To group animals with and without skeletons and compare their movement.</p> <p>To that humans and some other animals have muscles for support, protection and movement. To identify the different parts of a flowering plant. To describe the functions of different parts of a flowering plant. To describe the requirements of plants for growth. To know that different plants have different requirements. To name, locate and describe functions of the main parts of plants, including those involved in transporting water and nutrients. To explore the job of a flower in the lifecycle of a flowering plant. To know how flowers are pollinated.</p> <p>To know how seeds are formed. To know how seeds are dispersed. To explore the role of the roots and stem in nutrition and support.</p>	
Year 4	<p>To identify common appliances that run on electricity.</p> <p>To make a simple series electrical circuit.</p> <p>To name basic electrical components - cells, wires, bulbs, switches and buzzers. To identify whether or not a lamp will light based on whether or not the lamp is part of a complete loop with a cell.</p> <p>To recognise that a switch can be open or closed.</p> <p>To know that a switch can control whether a lamp will light in a simple series circuit.</p> <p>To recognise some common electrical conductors. To recognise some common electrical insulators.</p> <p>To know that metals are good electrical conductors.</p> <p>To use the idea that sounds are associated with vibrations and that they require a medium to travel through, to explain how sounds are made and heard. To describe the relationship between the pitch of a sound and the features of source; and between the volume of a sound, the strength of its vibrations and the distance from its source.</p> <p>To describe the characteristics of different states of matter and group materials on this basis; and describe how materials change state at different temperatures, using this to explain every day phenomenon e.g. water cycle. To measure and research temperatures (in degrees Celsius) that cause different materials to change state.</p> <p>To identify the part played by evaporation and condensation in the water cycle. To</p>	<p>To ask relevant questions.</p> <p>To conduct a scientific enquiry to answer my own questions. To set up a comparative enquiry. To set up a fair test. To make systematic observations.</p> <p>To use thermometers.</p> <p>To use data loggers. To gather data to answer a question. To record data to answer a question. To classify data to answer a question. To report data to answer a question. To report findings using simple scientific language.</p> <p>To report findings using keys.</p> <p>To report findings using a bar chart. To report findings from an enquiry orally and in a written conclusion.</p> <p>To use results to suggest improvements to a method. To use results to develop further questions.</p> <p>To identify difference, similarities and changes related to simple scientific ideas.</p> <p>To use scientific evidence to answer a question and support my findings.</p>

	<p>associate the rate of evaporation with temperature. To know that living things can be grouped in a variety of ways. To explore and use classification keys to group living things in the wider environment. To explore and use classification keys to identify and name living things in their local environment. To know that environments can change. To explain how environmental changes may have an impact on living things.</p> <p>To construct and interpret food chains. To name and describe the functions of the main parts of the digestive system in humans.</p> <p>To identify different types of teeth in humans.</p> <p>To know the functions of different teeth in humans.</p> <p>To construct simple food chains.</p> <p>To interpret a variety of food chains.</p> <p>To identify producers, predators and prey.</p>	
Year 5	<p>To explain that unsupported objects fall towards Earth because of the force gravity. To describe the effects of simple forces that involve contact (air resistance, water resistance and friction) and gravity. To identify simple mechanisms (levers, pulleys and gears) that increase the effect of a force.</p> <p>To describe the shapes and relative movements of the Sun, Moon, Earth, and other planets in the solar system.</p> <p>To describe the Sun, Earth and Moon as approximately spherical bodies.</p> <p>To explain day and night and the apparent movement of the Sun across the sky in relation to the Earth's rotation, and that this results in day and night.</p> <p>To group and identify materials according to their properties (including hardness, solubility, transparency, conductivity and response to magnets), based on first-hand observation; and justify the use of different every day materials for different uses.</p> <p>To identify and describe what happens when dissolving occurs in everyday situations; and describe how to separate mixtures into their components. To know some materials dissolve in liquid to form a solution.</p> <p>To describe how to recover a substance from a solution.</p> <p>To use my knowledge of solids, liquids and gases to decide how to separate a mixture (including filtering, sieving and evaporating). To identify, with reasons, whether changes in materials are reversible or not. To describe changes as humans develop to old age.</p> <p>To draw a timeline to indicate stages in human growth and development. To learn about some changes experienced during puberty. To research the gestation period of other animals and comparing this with human gestation. To describe the life process of reproduction in some plants. To name, locate and describe functions of the main parts of plants, including those involved in reproduction.</p>	<p>To plan different types of scientific enquiries to answer questions. To recognise and control variables.</p> <p>To take accurate and precise measurements using scientific equipment. To take repeat measurements where appropriate. To record data and results using diagrams with labels.</p> <p>To record data and results using tables. To record data and results using bar and line graphs.</p> <p>To use test results to make further predictions which will feed into further comparative and fair tests.</p> <p>To report findings from an enquiry both orally and in writing. To make a conclusion based on a test.</p> <p>To explain results from an enquiry.</p> <p>To identify a degree of trust within an enquiry.</p>
Year 6	<p>To use the observable features of plants, animals and microorganisms to group, classify and identify them into broad groups, using keys or other methods.</p> <p>To give reasons for classifying plants and animals based on characteristics. To look at a classification system in greater detail.</p> <p>To look at subdivisions within a class of living things.</p> <p>To classify animals through direct observations. To find out about significant scientists e.g. Carl Linnaeus (pioneer of classification).</p> <p>To name and describe the functions of the main parts of the human circulatory system. To name the main parts of the human circulatory system.</p>	<p>To plan different types of scientific enquiries to answer questions. To recognise and control variables.</p> <p>To take accurate and precise measurements using scientific equipment. To take repeat measurements where appropriate. To record data and results using classification keys. To record data and results using scatter graphs.</p> <p>To record data and results using bar and line graphs.</p> <p>To use test results to make further predictions which will feed into further comparative and fair tests.</p> <p>To report findings from an enquiry both orally and in writing. To make a conclusion</p>

<p>To describe the functions of the heart, blood vessels and blood. To describe the effects of diet, exercise, drugs and lifestyle on how the body functions. To describe the way nutrients and water are transported within animals.</p> <p>To know some things that are harmful to my body.</p> <p>To know that living things have changed over time.</p> <p>To know that fossils provide information about living things that inhabited the Earth millions of years ago. To know that living things produce offspring, but normally offspring are not identical to their parents.</p> <p>To know that animals and plants are adapted to suit their environment in different ways.</p> <p>To know that adaptation can lead to evolution. To know that characteristics are passed from parents to their offspring. To use the basic principles of inheritance, variation and adaptation to describe how living things have changed over time and evolved. To provide evidence for evolution.</p> <p>To find out about how Darwin and Wallace developed their ideas about evolution.</p> <p>To recognise that light travels in straight lines. To know that because light travels in straight line, I am able to see objects because they give out or reflect light into the eye.</p> <p>To use the idea that light travels from a light source, or reflected light, travels in straight lines, and enters our eyes to explain how we see things.</p> <p>To use the idea that light travels from a light source, or reflected light, travels in straight lines to explain the shape of shadows. To use simple apparatus to construct and control a series circuit, and describe how the circuit may be effected when changes are made to it.; and use recognised symbols to represent a simple series circuit. To associate the brightness of a lamp and the volume of a buzzer with the voltage of cell used.</p> <p>To associate the brightness of a lamp and the volume of a buzzer with the number of cells used.</p> <p>To compare variations in how components function (brightness of bulbs, loudness of buzzers, on/off position of switches).</p> <p>To give reasons for variations in how components function (brightness of bulbs, loudness of buzzers, on/off position of switches).</p> <p>To know what precautions to take to work safely with electricity.</p>	<p>based on a test.</p> <p>To identify causal relationships from an enquiry.</p> <p>To explain results from an enquiry.</p> <p>To identify a degree of trust within an enquiry. To identify scientific evidence that can be used to support or refute an idea or argument.</p>
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