



St. Patrick's RC Primary School

Science Curriculum Overview

Year Group	Autumn	Spring	Summer	
Year 1 Working Scientifically Ask simple questions Recognise that questions can be answered in different ways Observe closely Use simple scientific equipment Perform simple tests Identify and classify different things Use observations to suggest answers to questions Gather and record data Use data to help answer questions				
	Autumn 1	Autumn 2 Spring 1	Spring 2 Summer 1	Summer 2
Year 1 Topics	Animals Including Humans Identify a name common animals Recognise fish, amphibians, reptiles, birds and mammals Identify and name carnivores, herbivores and omnivores Describe the structure of a variety of common animals Identify, name and draw basic parts of the human body	Everyday Materials 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 Become familiar with properties such as hard/soft, stretchy/stiff, shiny/dull, rough/smooth, bendy/not bendy, waterproof/not waterproof, absorbent/not absorbent, opaque/transparent Explore and experiment with a wide range of materials	Plants Identify and name a variety of common wild and garden plants Identify deciduous and evergreen trees Label plant structures Explore the local environment	Seasonal Changes Observe changes across the four seasons Observe and describe weather associated with the seasons and how day length varies

	<p>Say which part of the body is associated with each sense</p> <p>Understand how to take care of animals</p> <p>Compare and contrast animals</p>			
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Year 2
Working Scientifically
 Ask simple questions
 Recognise that questions can be answered in different ways
 Observe closely
 Use simple scientific equipment
 Perform simple tests
 Identify and classify different things
 Use observations to suggest answers to questions
 Gather and record data
 Use data to help answer questions

	Autumn 1	Autumn 2 Spring 1	Spring 2	Summer 1 Summer 2
Year 2 Topics	<p>Animals, Including Humans</p> <p>Notice that animals, including humans, have offspring which grow into adults</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>Describe the importance for humans of exercise,</p>	<p>Everyday Materials</p> <p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p> <p>Recognise that materials are used for more than one thing</p> <p>Think of unusual and creative ways of using everyday materials</p> <p>Research people who have helped develop new materials</p>	<p>Living Things and Their Habitats</p> <p>Explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>Identify that most living things live in habitats to which they are suited</p> <p>Describe how different habitats provide for the basic needs of</p>	<p>Plants</p> <p>Observe and describe how seeds and bulbs grow into mature plants</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</p> <p>Use local environment to observe how plants grow</p> <p>Introduced to the requirements of plants for germination, growth and survival, as well as to the processes of reproduction and growth in plants</p>

	<p>eating the right amounts of different types of food, and hygiene Recognise the importance of nutrition for humans</p>		<p>different kinds of animals and plants Describe how animals and plants depend on each other Identify and name a variety of plants and animals in their habitats, including micro-habitats Describe how animals obtain their food from plants and other animals Create a simple food chain Identify and name different sources of food Introduced to the term habitat and micro-habitat Raise and answer questions about the local environment Compare the living conditions of animals in different habitats</p>	
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Year 3
Working Scientifically
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

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1 Summer 2
Year 3 Topics	<p>Animals, including Humans Identify that animals, including humans, need the right types and amount of nutrition Identify that animals 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 Find out how different parts of the body have different functions</p>	<p>Rocks 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>	<p>Forces and Magnets Compare how things move on different surfaces Notice that some forces need contact between two objects Notice that magnetic forces can act at a distance Observe how magnets attract or repel each other Observe how magnets 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 Explore the behavior and uses of everyday magnets</p>	<p>Lights Recognise that they need light in order to see things Recognise that dark is the absence of light Notice that light is reflected from surfaces Recognise that light from the sun can be dangerous Recognise 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 Explore what happens when light reflects off a mirror or other reflective surface</p>	<p>Plants Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers Recognise that each part of the plant has a job to do 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 Introduced to the idea that plants make their own food</p>

Year 4

Working Scientifically

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

	Autumn 1	Autumn 2	Spring 1 Summer 1	Spring 2 Summer 1	Summer 2
Year 4 Topics	Animals, Including Humans Describe the simple functions of the basic parts of the digestive system in humans Recognise the mouth, tongue, teeth, oesophagus, stomach, small intestine and large intestine Identify the different types of teeth in humans and their simple functions Identify what damages teeth Recognise how to look after teeth Construct and interpret a variety of food chains Identify producers, predators and prey in food chains	Sound Identify how sounds are made, associating some of them with something vibrating Recognise that vibrations from sounds travel through a medium to the ear Find patterns between the pitch of a sound and features of the object that produced it Find patterns between the volume of a sound and the strength of the vibrations that produced it Recognise that sounds get fainter as the distance from the sound source increases Find patterns in the sounds that are made by the same object in different sizes	Electricity Identify common appliances that run on electricity Construct a simple series electrical circuit Identify and name its basic parts in a simple circuit, 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	Living Things and Their Habitats 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 Recognise that changes in environments can sometimes pose dangers to living things Raise and answer questions in the local environment	States of Matter Compare and group materials together, according to whether they are solids, liquids or gases Observe that some materials change state when they are heated or cooled Measure or research the temperature of a change of state in degrees Celsius (°C) Identify the part played by evaporation and condensation in the water cycle Associate the rate of evaporation with temperature Observe water as a solid, liquid and gas Observe the changes in water as it is heated and cooled

Recognise some common conductors and insulators
Associate metals with being good conductors

Working Scientifically

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

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

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

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

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

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

	Autumn 1	Autumn 2	Spring 1 Spring 2	Summer 1 Summer 2
Year 5 Topics	<p>Properties and Changes of Materials Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets Build on scientific understanding from Year 3 and Year 4 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</p>	<p>Living Things and Their Habitats Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird Describe the life process of reproduction in some plants and animals Observe life changes in a variety of living things Research the work of naturalists and behaviourists (e.g. David Attenborough)</p>	<p>Animals, Including Humans Describe the changes as humans develop to old age Draw a timeline to indicate the stages of growth and development Recognise and understand the changes that occur during puberty</p>	<p>Earth and Space Describe the movement of the Earth, and other planets, relative to the Sun in the solar system Recognise that the Sun is a star Recognise that the Sun is at the centre of the Solar System Learn and recognise the names of the eight planets in the Solar System Understand that Pluto is a dwarf planet. Describe the movement of the Moon relative to the Earth Understand that a moon is a celestial body that orbits a planet Describe the Sun, Earth and Moon as approximately spherical bodies Use the idea of the Earth's rotation to explain day and night Use the idea of the Earth's rotation to explain the apparent movement of the sun across the sky</p>

	<p>gases to decide how mixtures might be separated</p> <p>Understand and attempt methods including through filtering, sieving and evaporating</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>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>			
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Working Scientifically

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	Autumn 1	Autumn 2	Spring 1	Spring 2 Summer 1	Summer 2
Year 6 Topics	<p>Animals, Including Humans Describe the changes as humans develop to old age Draw a timeline to indicate the stages of growth and development Recognise and understand the changes that occur during puberty</p>	<p>Evolution and Inheritance Recognise that living things have changed over time Recognise that fossils provide information about living things that inhabited the Earth millions of years ago Build on knowledge from Year 3 curriculum Recognise that living things produce offspring of the same kind Recognise that normally offspring vary and are not identical to their parents Identify how animals and plants are adapted to suit their environment in different ways Identify how adaptation may lead to evolution</p>	<p>Light 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 Build on knowledge from Year 3 curriculum Investigate a range of phenomena including rainbows, colour on soap bubbles, objects looking bent in water and coloured filters</p>	<p>Living Things and Their Habitats 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 Build on knowledge from Year 4 curriculum</p>	<p>Electricity Associate the brightness of a lamp with the number and voltage of cells used in the circuit Associate 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 Build on the knowledge from Year 4 curriculum</p>