

Science: Overview / Long term plan 2024-2025



Our EYFS Curriculum: Our curriculum is the 'top level view' of all the things we want children to experience, know and be able to do as a result of coming to St Patrick's Reception Class. Much of children's best learning is driven by their interests and fascinations. Children's play and self-directed exploration are great ways for them to learn. The curriculum we develop for our children will have key 'milestones/checkpoints'. Those key milestones should guide our approach to assessment. When we are clear about what we want children to experience, know and be able to do, we will also be clear about what we need to assess.

	Advent 15 weeks				Lent 13 weeks				Pentecost 10 weeks			
Educational Programmes: Understanding the World												
Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children’s personal experiences increases their knowledge and sense of the world around them – from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Enriching and widening children’s vocabulary will support later reading comprehension.												
UTW Understanding the World Continuous provision examples: Natural materials indoors and outdoors to explore, stone collections, magnetic construction, classroom IWB, Bee-Bots.	<ul style="list-style-type: none">- Daily weather discussion and seasonal changes. Experiences in different weather.- Animals in Autumn – preparing for winter- What do we need to do now it is getting colder (clothing) and what might we see? (leaves / ice / frost / snow)				<ul style="list-style-type: none">- Winter weather continued- Frost, snow, ice – experiments changing state (why?)- Animals in winter- Space – moon- Planting – observing bulbs- Name and describe some plants and animals children are likely to see – tulip and daffs encouraging children to recognise familiar plants and animals whilst outside- Growing up and change				<ul style="list-style-type: none">- Show some understanding of current processes such as spring to summer making link to previous season work- Create opportunities to discuss how we care for the natural world around us			
Key Vocabulary	Me Myself / I Family Parents Friends Help Hero/s Superhero Character Real Life Police Firefighter	People Special Teacher Priest Doctor / Nurse Community Before Now Autumn Leaves Falling	Change Colours Rain Sun Blocked Cloud Storm Snow Thunder Lightening Ice	Frost Hot Cold Warm Autumn Winter Animals Migration Clothes Old New	Winter Ice Cold Frost Snow Storm Thunder Lightening Gloomy Rain clouds Temperature Change Fox Hedgehog	Birds – link to specific birds based on materials (robin) Past Before / before I was born History Now / then Present Earth Leicester England Map View Aerial Same Different	Notice Land Water Space Planets Moons Astronaut Travel Church (See Gathering topic key words) Easter Spring New life	Grow Change Bulb / seed Stem Leaf Plant Grow Soil Water Air Sun / light Tulip Daffodils	Leicester England UK Scarborough Road Harrison Road Belgrave Clock Tower Houses	Street Green area Forest Trees Same Different Bracken Nettles	Wildlife Sticks Bark Truck Uneven Arboretum (place with lots of different trees) / Marsh Climate Summer	Care Check Observe

Working scientifically: Observation over time (OT), Pattern seeking (PS), Identifying, classifying and grouping (ICG), Comparative and fair testing (CFT), Research using secondary sources (RSS).

YEAR 1	Animals Including Humans (Topic)	Seasonal Changes (Autumn to Winter)	Everyday Materials	Seasonal Changes (Spring to Summer)	Plants
	Topic page/What I Know	Topic page/What I Know	Topic page/What I Know	Topic page/What I Know	Topic page/What I Know
	I can draw my body and label my body parts.	I can describe how the weather changes across the seasons.	I can identify and name different materials.	I can identify changes in the trees and in clothes that we wear from winter to spring.	I can write instructions to describe how to plant a bean.
	I know which parts of my body I use to see, hear, taste, smell and feel.	I can observe and describe the weather in autumn.	I can name the materials which specific objects are made from.	I can observe and describe the weather in spring.	I can identify and name common wild plants.
	I can identify common animals including fish, amphibians, reptiles, birds and mammals.	I can identify signs of autumn.	I can describe the properties of everyday materials.	I can identify signs of spring. Plants: 8 weeks	I can identify and name some garden plants.
	I can describe and compare common animals.	I can describe how day length varies from autumn to winter.	I can identify which materials have certain properties.	I can describe how day length varies from spring to summer.	I can identify trees by their leaves. I can sort deciduous and evergreen leaves.
	I can name and sort some animals that are carnivores, herbivores and omnivores.	I can observe and describe the weather in winter.	I can test different materials by dropping water onto them, in a fair way.	I can observe and describe the weather in summer.	I can identify and describe the parts of plants and trees.
	I can sort animals according to criteria.	I can explain how some animals adapt in winter.	I can sort objects by their properties.	I can explain how to stay safe in the sun.	I can say what plants need to grow well and give reasons for my answers.
	What I remember End of unit test	What I remember	What I remember End of unit test	What I remember End of unit test	What I remember End of unit test

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YEAR 2	Living Things and Their Habitats (Autumn objects)	Uses of Everyday Materials	Animals Including Humans	The Environment (CAFOD /Lenten term)	Plants
	Topic page/What I Know	Topic page/What I Know	Topic page/What I Know	Topic page/What I Know	Topic page/What I Know
	I can compare the differences between things that are living, dead and have never been alive.	I can explore different materials and identify materials made from wood, paper and cardboard.	I can describe how animals change as they grow.	I can measure the melting of ice in a comparative test.	I can look closely at plants and trees and record what I see.
	I can identify living things in my local area.	I can identify materials made from brick, rock, glass and plastic.	I can name the different stages in the human timeline.	I can sort items for recycling based on their materials.	I can plant seeds and bulbs and suggest how to care for them.
	I can describe a habitat and identify animals live in it.	I can identify materials made from metal and fabrics.	I can describe the basic needs of humans and animals.	I can think of a way to teach people to use less energy.	I can explain the life cycle of plants.
	I can identify animals in microhabitats.	I can compare the suitability of different everyday materials.	I can identify healthy and unhealthy food and say how much of them I should eat.	I can ask and answer questions about the rainforest.	I can explain what plants need to grow well.
	I can explain that animal's habitat provides the food it needs to survive.	I can tell you four ways the shapes of some objects can be changed.	I can give reasons why humans need to exercise.	I can identify how to reduce water use.	I can describe what plants need to grow and stay healthy.
	I can use a food chain to show how animals get their food.	I can set up an investigation on waterproofing.	I know how and why I should keep myself clean.	I can ask and answer questions about endangered animals.	I can observe and describe the growth of different plants.
	What I remember End of unit test	What I remember End of unit test	What I remember End of unit test	What I remember	What I remember End of unit test

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YEAR 3	Animals Including Humans	Forces and Magnets	Rocks	Light	Plants
	Topic page/What I Know Spellings	Topic page/What I Know Spellings	Topic page/What I Know Spellings	Topic page/What I Know Spellings	Topic page/What I Know Spellings
	I can identify and name bones in the human body and explain their functions.	I can say when there is a push or a pull acting on an object.	I can name the three different types of natural rocks.	I can explain that I need light to see things, and that dark is the absence of light.	I can name the different parts of flowering plants and explain their jobs.
	I can identify and name bones in a range of animals.	I can investigate the effects of friction on different surfaces.	I can group rocks based on their properties.	I can investigate which surfaces reflect light.	I can set up an investigation to find out what plants need to grow well.
	I understand that all animals do not have a spine, and all skeletons are not the same.	I can sort magnetic and non-magnetic materials.	I can explain how fossils are formed.	I can use a mirror to reflect light and explain how mirrors work.	I can present the results of my investigation using scientific language.
	I understand that joints and muscles work together to allow movement.	I can investigate the strength of magnets.	I can understand why Mary Anning's fossil findings were important.	I can explain the benefits and dangers of the sun.	I can investigate how water is transported in plants.
	I can explain what the right amount of nutrients are.	I can look at poles to say whether two magnets will attract or repel each other.	I can explain how soil is formed.	I can investigate which materials block light to form shadows.	I can identify the different parts of a flower.
	I can explain balanced diet and compare animal diet.	I can explain that magnets attract some materials.	I can observe how much water has filtered through different types of soil.	I can plan and set up an investigation about the way shadows change size.	I can understand the processes of seed dispersal, pollination, fertilisation and germination.
	What I remember Spelling test End of unit test	What I remember Spelling test End of unit test	What I remember Spelling test End of unit test	What I remember Spelling test End of unit test	What I remember Spelling test End of unit test

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YEAR 4	Living Things and Their Habitats	Animals Including Humans	States of Matter	Sounds	Electricity
	Topic page/What I Know Spellings	Topic page/What I Know Spellings	Topic page/What I Know Spellings	Topic page/What I Know Spellings	Topic page/What I Know Spellings
	I can group animals and describe their features.	I can identify and name parts of the human digestive system.	I can sort materials into solids, liquids or gases.	I can identify and describe sound sources around school.	I can explain that there are different types of electricity.
	I can classify animals by observing similarities and differences.	I can explain the functions of the digestive system.	I can investigate gases and explain their properties.	I can explain how different sound travels.	I can identify electrical appliances and the types of electricity they use.
	I can ask questions to classify different animals.	I can identify the types and functions of teeth.	I can investigate the melting and freezing temperature of a material.	I can explore ways to change the pitch of a sound.	I can identify complete and incomplete circuits.
	I can group plants and describe their features.	I can ask scientific questions and create an enquiry to answer them.	I can identify the temperatures at which water changes state.	I can identify how sounds change over distance.	I can identify and sort materials into electrical conductors or insulators.
	I can use classification keys to classify different plants.	I can record my findings using appropriate scientific language.	I can explain the effect of temperature on the process of evaporation.	I can explain how different sounds travel. I can investigate ways to absorb sound.	I can explain how a switch works and why they are needed.
	I understand that humans have had an impact on habitats.	I can construct and interpret food chains and food webs.	I can explain the role of evaporation and condensation in the water cycle.	I can make a musical instrument to play different sounds.	I can record and report on an investigation.
	What I remember Spelling test End of unit test	What I remember Spelling test End of unit test	What I remember Spelling test End of unit test	What I remember Spelling test End of unit test	What I remember Spelling test End of unit test

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YEAR 5	Forces	Living Things and Their Habitats	Earth and Space (moon diary)	Properties and Changes of Materials	Animals Including Humans (RSE)
	Topic page/What I Know Spellings	Topic page/What I Know Spellings	Topic page/What I Know Spellings	Topic page/What I Know Spellings	Topic page/What I Know Spellings
	I can identify friction and explain that friction is a useful force.	I can describe how some plants reproduce.	I can explain why we know the Sun, Earth and Moon are spherical.	I can compare materials according to their properties.	I can describe the stages of human development.
	I can explore and explain effects of air resistance.	I can identify advantages and disadvantages to sexual and asexual reproduction in plants.	I can order, name and describe features of the planets in our solar system.	I can investigate thermal conductors and insulators.	I can explain how babies grow and develop.
	I can plan and conduct an investigation into the effects of air resistance.	I can describe the life cycles of different mammals.	I can explain how planets move in our solar system.	I can identify electrical conductors and insulators.	I can describe and explain the main changes that occur during puberty.
Properties and Changes of Materials TT4: Give reasons based on evidence from comparative test for particular use of everyday materials including metal, wood and plastic	I can explore and explain the effects of water resistance.	I can explain what Jane Goodall discovered about chimpanzees.	I can explain day and night and the apparent movement of the sun across the sky.	I can investigate materials which will dissolve.	I can identify the changes that take place in old age.
	I can explain the effect of gravity on unsupported objects.	I can explain metamorphosis and give examples.	I can investigate night and day in different parts of the Earth.	I can use different processes to separate mixtures of materials.	I can report findings from enquiries and written explanations in the context of the gestation period for animals.
	I can explain how different mechanisms work.	I can compare the life cycles of plants, mammals, amphibians, insects and birds.	I can explain the movement and phases of the Moon.	I can identify and explain irreversible chemical changes.	I can record complex data using graphs and models.
	What I remember Spelling test End of unit test	What I remember Spelling test End of unit test	What I remember Spelling test End of unit test	What I remember Spelling test End of unit test	What I remember Spelling test End of unit test

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YEAR 6	Living Things and Their Habitats	Animals Including Humans	Electricity	Evolution and Inheritance	Light
	Topic page/What I Know Spellings	Topic page/What I Know Spellings	Topic page/What I Know Spellings	Topic page/What I Know Spellings	Topic page/What I Know Spellings
	I can recognise conditions for survival for living things and group them.	I can identify and name the parts of the human circulatory system.	I can explain the importance of the major discoveries in electricity.	I can identify inherited characteristic that are passed on from parent to offspring.	I can explain that light travels in straight lines from light sources to our eyes.
	I can classify plants based on their similarities and differences.	I can describe the functions of the main parts of the circulatory system.	I can recognise and draw scientific circuit symbols.	I can demonstrate understanding of the scientific meaning of adaptation.	I can understand how mirrors reflect light, and how they can help us see objects.
	I can identify the characteristics of different types of animals.	I can explain how water and nutrients are transported within the body.	I can observe and explain the effects of differing voltages in a circuit.	I can identify the key ideas of the theory of evolution.	I can investigate how refraction changes the direction in which light travels.
	I can give reasons for classifying animals based on their similarities and differences.	I can describe how diet and exercise impact on human bodies.	I can understand variations in how components function.	I can identify evidence for evolution from fossil records.	I can investigate how a prism changes a ray of light to show the spectrum.
	I can identify the characteristics of different types of microorganisms.	I can record, report and present results appropriately.	I can record my data and report my findings.	I can compare modern humans with members of the same genus and family.	I can explain what Isaac Newton discovered about colour.
	I can classify animals using Carl Linnaeus way of classification.	I can explain the impact of drugs, alcohol and smoking on the body.	I can differentiate between series and parallel circuits.	I can explain how human intervention affects evolution.	I can explain why shadows have the same shape as the object that casts them.
	What I remember Spelling test End of unit test	What I remember Spelling test End of unit test	What I remember Spelling test End of unit test	What I remember Spelling test End of unit test	What I remember Spelling test End of unit test