



# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025

*A Curriculum that celebrates the Global Diversity of our school community*



### **Aims of Science:**

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

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

### **Purpose of study**

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

We use the KAPOW scheme of work to deliver Science.

### **The nature, processes and methods of science**

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



# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025

*A Curriculum that celebrates the Global Diversity of our school community*



### **Scientific knowledge and conceptual understanding**

The programmes of study describe a sequence of knowledge and concepts. While it is important that pupils make progress, it is also vitally important that they develop secure understanding of each key block of knowledge and concepts in order to progress to the next stage. Insecure, superficial understanding will not allow genuine progression: pupils may struggle at key points of transition (such as between primary and secondary school), build up serious misconceptions, and/or have significant difficulties in understanding higher-order content.

Pupils should be able to describe associated processes and key characteristics in common language, but they should also be familiar with, and use, technical terminology accurately and precisely. They should build up an extended specialist vocabulary. They should also apply their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data. The social and economic implications of science are important but, generally, they are taught most appropriately within the wider school curriculum: teachers will wish to use different contexts to maximise their pupils' engagement with and motivation to study science.

### **Spoken language**

The national curriculum for science reflects the importance of spoken language in pupils' development across the whole curriculum – cognitively, socially and linguistically. The quality and variety of language that pupils hear and speak are key factors in developing their scientific vocabulary and articulating scientific concepts clearly and precisely. They must be assisted in making their thinking clear, both to themselves and others, and teachers should ensure that pupils build secure foundations by using discussion to probe and remedy their misconceptions.

To support vocabulary progression in Science, we use the KAPOW scheme.



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## Science Curriculum Overview 2024-2025

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### **Rationale for science teaching across split year groups**

We recognise that the science curriculum is unique to each year group. Currently, we have a Y1/2 class split and a Y2/Y3 class split. It has been decided that science will be delivered as separate year groups to ensure that the entire science curriculum is covered. Term 1 will be taught in class groups as they will all cover 'Investigating science through stories.' All classes will deliver the Y1 planning and differentiate appropriately.



# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025

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### Different types of knowledge in Science

'Pupils need to develop an extensive and connected knowledge-base. When pupils learn new knowledge it should be integrated with the knowledge they already have. This ensures that learning is meaningful'. (Ofsted research review series: Science, 2021)

#### Substantive knowledge

Referred to as Scientific knowledge and conceptual understanding in the National curriculum and **Scientific knowledge and understanding** in our scheme of work, this is knowledge of the products of science: concepts, laws, theories and models.

In our *Science: Progression of skills and knowledge* we have broken down the National curriculum attainment targets into knowledge 'chunks' or 'components' and shown how they build over time to develop pupils' understanding of key concepts in Biology, Chemistry and Physics.

Through following our scheme pupils will build their substantive knowledge base by:

- Knowing more facts.
- Giving further examples of the same concept.
- Understanding and using a wider range of vocabulary.
- Using models or concepts that cannot be seen to explain ideas.
- Making and explaining links across areas of science.

Over time, that knowledge will become increasingly organised and connected. The *Recap and recall* section of the lesson helps pupils to activate their prior knowledge and encourages them to make connections between units.

#### Disciplinary knowledge

**Working scientifically** specifies the understanding of the nature, processes and methods of science for each year group and is covered alongside our **Scientific knowledge and understanding** strand in each and every unit, never in isolation.

We have broken down the Working scientifically statements from the National curriculum further to ensure gradual progression and focused teaching of the working scientifically skills. This also allows teaching to focus on the component disciplinary knowledge required to enable pupils to carry out the skills competently.



# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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### Key areas in Science

Pupils will develop **Scientific knowledge and understanding** in seven key areas. The learning in each area is summarised below:

#### Animals, including humans



Identifying animals, their basic structure and their eating habits, as well as their basic needs for survival. Children learn about the life cycles of animals and their place in food chains.

Naming parts of the human body and recognising the function of skeletons, muscles, teeth and the digestive and circulatory systems. Learning about the importance of hygiene and of the right type and amount of nutrition. Children learn about the impact of diet, drugs and exercise on the body and study the life cycles of humans.

This key area covers the Year 1, Year 2, Year 3, Year 4, Year 5 and Year 6 subject content titled 'Animals, including humans' from the National curriculum.

#### Living things and their habitats



Identifying something as living and how it is grouped based on its characteristics, similarities and differences.

Naming different types of habitats, learning what they provide for life and the impact of habitats changing. Children learn about the life cycles and reproduction of animals and plants, and how this affects the variation of living things around us, past and present.

This key area covers the Year 2, Year 4, Year 5 and Year 6 subject content titled 'Living things and their habitats' and 'Evolution and inheritance' from the National curriculum.

#### Plants



Identifying different plants and their key structures, growing seeds and plants and understanding their requirements for growth. Recognising the function of different plant structures and understanding how plants reproduce.

This key area covers the Year 1, Year 2 and Year 3 subject content titled 'Plants' from the National curriculum.

#### Materials



Naming materials, describing their properties and understanding why materials have specific uses. Identifying how materials may change and the factors that may contribute to this, including changes of state within the water cycle. Children learn about different mixtures and how they can be separated based on their properties.

Identifying different types of rocks and their physical properties, and understanding how fossils and soil are formed.

This key area covers the Year 1, Year 2, Year 3, Year 4 and Year 5 subject content titled 'Everyday materials', 'Uses of everyday materials', 'Rocks', 'States of matter' and 'Properties and changes of materials' from the National curriculum.

#### Energy



Learning about light and its properties, how it enables us to see and how shadows are formed. Identifying the relationship between sounds, volume, pitch and vibrations, and how sound travels to the ear.

Recognising electrical appliances and the components that make up different circuits. Building electrical circuits and identifying factors that affect the output.

This key area covers the Year 3, Year 4 and Year 6 subject content titled 'Light', 'Electricity' and 'Sound' from the National curriculum.



# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025

*A Curriculum that celebrates the Global Diversity of our school community*



### Forces, Earth and space



Identifying changes across the seasons, and the weather and day length associated with each.

Recognising different types of forces and understanding their effect on objects, including the role of pulleys, levers and gears. Children learn about magnetic materials and that magnets attract and repel.

Learning about the movements of planets and moons within the solar system and how this relates to our day and night.

This key area covers the Year 1, Year 3 and Year 5 subject content titled 'Seasonal changes', 'Forces and magnets', 'Earth and space' and 'Forces' from the National curriculum.

### Making connections



[Finding the optimum: the science subject report](#) (Ofsted, 2023) states that schools should ensure that teachers

**'regularly connect new learning to what pupils have already learned. This includes showing pupils how knowledge from different areas of the curriculum connects.'**

One of the ways in which we do this is through our Making connections units, which give pupils opportunities, beyond the National curriculum programme of study, to make connections between their science learning.



# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025

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	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
<b>Diamond</b>		<p><b>Animal adventures</b></p> <p><b>To know:</b></p> <ul style="list-style-type: none"> <li>-To know the names of familiar animals (e.g. farm animals, pets and animals seen in storybooks.)</li> <li>-To know the main body parts of common animals (number of legs, wings, fur, tail)</li> <li>-To know that animals, including humans use their senses to explore the world</li> <li>-To know that animals need food</li> <li>-To know that animals and plants move, grow and feed</li> <li>-To know the difference between things that are living and things that are non-living</li> </ul>	<p><b>I am a scientist</b></p> <p><b>To know:</b></p> <ul style="list-style-type: none"> <li>-To recognise that things around us are made from different materials</li> <li>-To describe materials using the senses (hard, soft, strong, bendy)</li> <li>-To understand that some materials can change shape</li> </ul> <p><b>Working Scientifically:</b> <b>To be added in – from Kapow</b></p> <p><b>Development matters C+L</b></p> <ul style="list-style-type: none"> <li>• Learn new vocabulary</li> <li>• Ask questions to find out more and to check they understand what has been said to them</li> </ul>	<p><b>Our beautiful planet</b></p> <p><b>To know:</b></p> <ul style="list-style-type: none"> <li>-To know the name for the basic plant parts (leaves, flowers, stem and roots.)</li> <li>-To know the names of some familiar flowering plants (e.g. daisy, rose, sunflower, daffodil)</li> <li>-To know plants are alive</li> <li>-To know that seeds need water to grow. To know that seeds grow into plants if taken care of</li> </ul> <p><b>Working Scientifically:</b> <b>To be added in – from Kapow</b></p> <p><b>Development matters C+L</b></p> <ul style="list-style-type: none"> <li>• Learn new vocabulary</li> <li>• Ask questions to find out more and to check</li> </ul>	<p><b>Changing seasons</b></p> <p><b>To know:</b></p> <ul style="list-style-type: none"> <li>-To know that some animals hibernate or store food in winter</li> <li>-To know that some trees change in the four seasons</li> <li>-To know some signs of each season (leaves on the ground, cold weather, daffodils growing and sunny weather)</li> <li>-To know that the weather changes throughout the year</li> <li>-To know and compare weather types (rain, sun, snow, wind)</li> </ul> <p><b>Working Scientifically:</b></p> <p><b>Predicting</b></p> <ul style="list-style-type: none"> <li>- Beginning to make guesses about what might happen</li> </ul>	



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## Science Curriculum Overview 2024-2025



*A Curriculum that celebrates the Global Diversity of our school community*

		<p>-To know that plants and animals live in a range of different places (land, sea, air) -To name some different places where animals live on the school site.</p> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b> -With support, asking questions about the natural world</p> <p><b>Observing (qualitative data)</b> -Commenting on what they see and hear in the natural world</p> <p><b>Researching</b> -Recognising that information can be found online and in books.</p> <p><b>Recording (diagrams)</b> -Drawing and labelling pictures of plants and animals</p> <p><b>Grouping and classifying</b> -With support, grouping objects, plants and animals</p>	<ul style="list-style-type: none"> <li>• Articulate their ideas and thoughts in well-formed sentences</li> <li>• Connect one idea or action to another using a range of connectives</li> <li>• Use talk to explain how things work and why they might happen</li> <li>• Use new vocabulary in different contexts</li> <li>• Listen to and talk about selected non-fiction to develop a deep familiarity with new knowledge and vocabulary</li> </ul> <p><b>UTW</b></p> <ul style="list-style-type: none"> <li>• Talk about the differences between materials and changes they notice</li> <li>• Explore the natural world around them</li> <li>• Describe what they see, hear and feel whilst outside</li> </ul> <p><b>ELG</b></p> <p><b>Speaking</b></p> <ul style="list-style-type: none"> <li>• Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and</li> </ul>	<p>they understand what has been said to them</p> <ul style="list-style-type: none"> <li>• Articulate their ideas and thoughts in well-formed sentences</li> <li>• Connect one idea or action to another using a range of connectives</li> <li>• Use talk to explain how things work and why they might happen</li> <li>• Use new vocabulary in different contexts</li> <li>• Listen to and talk about selected non-fiction to develop a deep familiarity with new knowledge and vocabulary</li> </ul> <p><b>UTW</b></p> <ul style="list-style-type: none"> <li>• Talk about the differences between materials and changes they notice</li> <li>• Explore the natural world around them</li> <li>• Describe what they see, hear and feel whilst outside</li> </ul> <p><b>ELG</b></p> <p><b>Speaking</b></p> <ul style="list-style-type: none"> <li>• Offer explanations for why things might happen, making use of recently introduced</li> </ul>	<p><b>Observing (qualitative data)</b> -Commenting on what they see and hear in the natural world</p> <p><b>Recording (diagrams)</b> -Drawing and labelling pictures of plants and animals</p> <p><b>Recording (tables)</b> -Recognising that tables can be used to record information</p> <p><b>Analysing and drawing conclusions</b> -Describing their discoveries when working practically</p> <p><b>Development matters</b> <b>C+L</b></p> <ul style="list-style-type: none"> <li>• Learn new vocabulary</li> <li>• Ask questions to find out more and to check they understand what has been said to them</li> <li>• Articulate their ideas and thoughts in well-formed sentences</li> <li>• Connect one idea or action to another using a range of connectives</li> </ul>	
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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		<p><b>Development matters – C+L</b></p> <ul style="list-style-type: none"> <li>• Learn new vocabulary</li> <li>• Ask questions to find out more and to check they understand what has been said to them</li> <li>• Articulate their ideas and thoughts in well-formed sentences</li> <li>• Connect one idea or action to another using a range of connectives</li> <li>• Use talk to explain how things work and why they might happen</li> <li>• Use new vocabulary in different contexts</li> <li>• Listen to and talk about selected non-fiction to develop a deep familiarity with new knowledge and vocabulary</li> </ul> <p><b>UTW</b></p> <ul style="list-style-type: none"> <li>• Explore the natural world around them</li> <li>• Describe what they see, hear and feel whilst outside</li> </ul> <p><b>ELG Speaking</b></p>	<p>poems when appropriate</p> <p><b>TNW</b></p> <ul style="list-style-type: none"> <li>• Explore the natural world around them, making observations and drawing pictures of animals and plants</li> <li>• 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;</li> <li>• Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter simple physical properties</li> </ul>	<p>vocabulary from stories, non-fiction, rhymes and poems when appropriate</p> <p><b>TNW</b></p> <ul style="list-style-type: none"> <li>• Explore the natural world around them, making observations and drawing pictures of animals and plants</li> <li>• 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;</li> <li>• Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter simple physical properties</li> </ul>	<ul style="list-style-type: none"> <li>• Use talk to explain how things work and why they might happen</li> <li>• Use new vocabulary in different contexts</li> <li>• Listen to and talk about selected non-fiction to develop a deep familiarity with new knowledge and vocabulary</li> </ul> <p><b>UTW</b></p> <ul style="list-style-type: none"> <li>• Talk about the differences between materials and changes they notice</li> <li>• Explore the natural world around them</li> <li>• Describe what they see, hear and feel whilst outside</li> </ul> <p><b>ELG Speaking</b></p> <ul style="list-style-type: none"> <li>• Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate</li> </ul> <p><b>TNW</b></p> <ul style="list-style-type: none"> <li>• Explore the natural world around them, making observations</li> </ul>	
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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		<ul style="list-style-type: none"> <li>• Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate</li> </ul> <p><b>TNW</b></p> <ul style="list-style-type: none"> <li>• Explore the natural world around them, making observations and drawing pictures of animals and plants</li> <li>• 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;</li> <li>• Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter</li> </ul> <p>simple physical properties</p>			<p>and drawing pictures of animals and plants</p> <ul style="list-style-type: none"> <li>• 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;</li> <li>• Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter</li> </ul> <p>simple physical properties</p>	
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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<p><b>Y1 – Emerald</b></p>	<p><b>Investigating science through stories</b> (all classes to deliver Y1 planning and differentiate appropriately)</p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>- To observe changes across the seasons</li> <li>- To describe and compare the features of animals</li> <li>- To identify differences in animal features</li> <li>- To describe the properties of everyday materials</li> <li>- To identify animals that are carnivores, herbivores and omnivores</li> </ul> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b></p> <ul style="list-style-type: none"> <li>-Exploring the world around them and</li> </ul>	<p><b>Comparing animals</b></p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>-A variety of common animals (including fish, amphibians, reptiles, birds and mammals)</li> <li>-The main body parts of common animals (arms, legs, wings, tails, fins, head, trunk, horns, tusks and shell)</li> <li>-A carnivore is an animal that eats other animals and to give some examples</li> <li>-A herbivore is an animal that eats only plants and to give some examples</li> <li>-An omnivore is an animal that eats both animals and plants and to give some examples</li> </ul> <p><b>Science in action:</b></p> <p><b>To know:</b></p>	<p><b>Everyday materials</b></p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>-Objects are items or things</li> <li>-A material is what an object is made from</li> <li>-A variety of everyday materials, including wood, plastic, glass, metal, water and rock</li> <li>-Property refers to how a material can be described</li> <li>-Materials can be grouped based on their physical properties</li> </ul> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b></p> <ul style="list-style-type: none"> <li>-Responding to suggestions on how to answer questions.</li> </ul> <p><b>Planning</b></p>	<p><b>Introduction to plants</b></p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>-A variety of common plants and how they differ.</li> <li>-That deciduous trees lose their leaves seasonally but evergreen trees do not.</li> <li>-The basic structure, including leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches and stem, of a variety of common plants, including flowering plants and trees.</li> <li>-To begin to understand how plants grow and change over time.</li> </ul> <p><b>Science in action:</b></p> <p><b>To know:</b></p>	<p><b>Seasonal changes</b></p> <ul style="list-style-type: none"> <li>• To know the name and order of the four seasons; spring, summer, autumn and winter</li> <li>• To know that it is unsafe to look directly at the Sun</li> <li>• To know weather associated with the four seasons and how it changes (in the UK).</li> <li>• To understand that day length varies across the four seasons, with fewer daylight hours in the winter and more in the summer.</li> </ul> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b></p> <ul style="list-style-type: none"> <li>-Exploring the world around them and raising their own simple questions.</li> </ul>	<p><b>Sensitive bodies</b></p> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b></p> <ul style="list-style-type: none"> <li>-Recognising there are different types of enquiry (ways to answer a question).</li> </ul> <p><b>Observing (qualitative data)</b></p> <ul style="list-style-type: none"> <li>-Using their senses to describe, in simple terms, what they notice or what has changed.</li> </ul> <p><b>Measuring (quantitative data)</b></p> <ul style="list-style-type: none"> <li>-Using non-standard units to measure and compare.</li> </ul> <p><b>Recording (diagrams)</b></p> <ul style="list-style-type: none"> <li>-Drawing and labelling simple diagrams.</li> </ul> <p><b>Recording (tables)</b></p> <ul style="list-style-type: none"> <li>-Using a prepared table to record results</li> </ul>



# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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	<p>raising their own simple questions. -Recognising there are different types of enquiry (ways to answer a question). -Responding to suggestions on how to answer questions.</p> <p><b>Planning</b> -Beginning to recognise whether a planned test is fair. -With support, deciding if suggested observations are suitable.</p> <p><b>Predicting</b> -Suggesting what might happen, often justifying with personal experience.</p> <p><b>Observing (qualitative data)</b> -Using their senses to describe, in simple terms, what they notice or what has changed.</p>	<p>- About famous scientists throughout history</p> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b> -Recognising there are different types of enquiry (ways to answer a question). -Responding to suggestions on how to answer questions.</p> <p><b>Planning</b> -With support, deciding if suggested observations are suitable.</p> <p><b>Observing (qualitative data)</b> -Using their senses to describe, in simple terms, what they notice or what has changed.</p> <p><b>Researching</b> Gathering specific information from one</p>	<p>-Beginning to recognise whether a planned test is fair. -With support, deciding if suggested observations are suitable.</p> <p><b>Predicting</b> -Suggesting what might happen, often justifying with personal experience.</p> <p><b>Observing (qualitative data)</b> -Using their senses to describe, in simple terms, what they notice or what has changed.</p> <p><b>Recording (tables)</b> -Using a prepared table to record results including simple observations.</p> <p><b>Grouping and classifying</b> -Grouping based on visible characteristics.</p> <p><b>Analysing and drawing conclusions</b></p>	<p>-About famous scientists throughout history. -About the work of modern-day scientists. -There are spiritual, moral, social and cultural links with Science.</p> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b> -Exploring the world around them and raising their own simple questions. -Recognising there are different types of enquiry (ways to answer a question). -Responding to suggestions on how to answer questions.</p> <p><b>Planning</b> -With support, deciding if suggested observations are suitable. -Ordering a simple method.</p> <p><b>Predicting</b> -Suggesting what might happen, often justifying</p>	<p><b>Predicting</b> -Suggesting what might happen, often justifying with personal experience.</p> <p><b>Observing (qualitative data)</b> -Using their senses to describe, in simple terms, what they notice or what has changed.</p> <p><b>Researching</b> -Gathering specific information from one simplified, specified source.</p> <p><b>Recording (tables)</b> -Using a prepared table to record tally frequency.</p> <p><b>Graphing</b> -Representing data using pictograms.</p> <p><b>Analysing and drawing conclusions</b> -Using their results to answer simple questions.</p>	<p>including numbers and simple observations.</p> <p><b>Grouping and classifying</b> -Grouping based on visible characteristics.</p> <p><b>Analysing and drawing conclusions</b> -Using their results to answer simple questions.</p>
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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	<p><b>Measuring (quantitative data)</b> -Beginning to use standard units and read simple scales to measure and compare. -Beginning to use simple measuring equipment to make approximate measurements.</p> <p><b>Researching</b> -Gathering specific information from one simplified, specified source.</p> <p><b>Recording (tables)</b> -Using a prepared table to record results including: numbers; simple observations.</p> <p><b>Grouping and classifying</b> -Grouping based on visible characteristics.</p> <p><b>Analysing and drawing conclusions</b></p>	<p>simplified, specified source.</p> <p><b>Recording (diagrams)</b> -Drawing and labelling simple diagrams.</p> <p><b>Grouping and classifying</b> -Grouping based on visible characteristics</p> <p><b>Graphing</b> -Representing data using pictograms and block charts.</p> <p><b>Analysing and drawing conclusions</b> -Using their results to answer simple questions.</p>	<p>-Using their results to answer simple questions. -Beginning to recognise when results or observations do not match their predictions.</p>	<p>with personal experience.</p> <p><b>Observing (qualitative data)</b> -Using their senses to describe, in simple terms, what they notice or what has changed.</p> <p><b>Measuring (quantitative data)</b> -Using non-standard units to measure and compare.</p> <p><b>Researching</b> -Gathering specific information from one simplified, specified source.</p> <p><b>Recording (diagrams)</b> -Drawing and labelling simple diagrams.</p> <p><b>Recording (tables)</b> -Using a prepared table to record results including: numbers; simple observations.</p> <p><b>Grouping and classifying</b></p>		
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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	<ul style="list-style-type: none"> <li>-Using their results to answer simple questions.</li> <li>-Beginning to recognise when results or observations do not match their predictions.</li> </ul>			<ul style="list-style-type: none"> <li>-Grouping based on visible characteristics.</li> </ul> <p><b>Analysing and drawing conclusions</b></p> <ul style="list-style-type: none"> <li>-Using their results to answer simple questions.</li> <li>-Beginning to recognise when results or observations do not match their predictions.</li> </ul>		
<p><b>Y2 – Emerald/Ruby</b></p>	<p><b>Investigating science through stories</b> (all classes to deliver Y1 planning and differentiate appropriately)</p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>- To observe changes across the seasons</li> <li>- To describe and compare the features of animals</li> <li>- To identify differences in animal features</li> </ul>	<p><b>Habitats</b></p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>-To know a variety of plants and animals and describe some differences</li> <li>-To know that a habitat is the environment where an animal or plant lives/grows, because it provides what they need to survive</li> <li>-To know that a micro-habitat is a very small habitat (e.g. stones, logs and leaf litter)</li> </ul>	<p><b>Uses of everyday materials</b></p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>-*To know why objects are made from particular materials and to give examples of their suitability</li> <li>-*To know that one material can be used for a range of purposes (and to give examples.)</li> <li>-*To know that different materials can be used for the same purpose (and to give examples.)</li> </ul>	<p><b>Plant growth</b></p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>-*To know that seeds and bulbs grow into seedlings by producing roots and shoots</li> <li>-To know that seedlings grow into mature plants by developing parts such as roots, stems, leaves and flowers</li> <li>-*To know that seeds need water and warmth to germinate. -*To know that plants need water, light and a suitable</li> </ul>	<p><b>Microhabitats</b></p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>-To know a variety of plants and animals and describe some differences</li> <li>-To know that a habitat is the environment where an animal or plant lives/grows, because it provides what they need to survive</li> <li>-To know that a micro-habitat is a very small habitat (e.g. stones, logs and leaf litter)</li> </ul>	<p><b>Life cycles and health</b></p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>-To understand how living things change, and that animals have offspring that grow into adults</li> <li>-To know which offspring comes from which parent animal</li> <li>-To know the stages in some animal life cycles</li> <li>-To know that animals, including humans, need water, food and air to survive</li> </ul>



# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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	<ul style="list-style-type: none"> <li>- To describe the properties of everyday materials</li> <li>- To identify animals that are carnivores, herbivores and omnivores</li> </ul> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b></p> <ul style="list-style-type: none"> <li>-Exploring the world around them and raising their own simple questions</li> <li>-Recognising there are different types of enquiry (ways to answer a question)</li> <li>-Responding to suggestions on how to answer questions</li> </ul> <p><b>Planning</b></p> <ul style="list-style-type: none"> <li>-Beginning to recognise whether a planned test is fair.</li> <li>-With support, deciding if suggested observations are suitable.</li> </ul>	<ul style="list-style-type: none"> <li>-To know that living things depend upon each other (e.g. for food, shelter.)</li> <li>-*To begin to understand some of the life processes, including movement, reproduction, sensitivity, growth, excretion and nutrition. -*To know the difference between things that are living, dead, and things that have never been alive, using some of the life processes</li> <li>-To name a variety of habitats, including woodland, ocean, rainforest and coastal</li> <li>-To understand that a food chain can be used to show how animals obtain food from eating either plants and/or other animals</li> </ul> <p><i>*This knowledge is revisited in our Year 2 Making connections unit: Plant-based materials</i></p>	<ul style="list-style-type: none"> <li>-*To know why certain materials are unsuitable for particular objects</li> <li>-To know that a push or pull must be applied to change the shape of a solid object</li> <li>-*To know that solid objects can be squashed, bent, twisted or stretched</li> <li>-To know that different solid objects may take a different amount of force to change shape</li> </ul> <p><i>*This knowledge is revisited in our Year 2 Making connections unit: Plant-based materials</i></p> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b></p> <ul style="list-style-type: none"> <li>- Recognising there are different types of enquiry (ways to answer a question)</li> </ul> <p><b>Measuring (quantitative data)</b></p>	<p>temperature for growth and health</p> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b></p> <ul style="list-style-type: none"> <li>- Exploring the world around them and raising their own simple questions</li> <li>- Recognising there are different types of enquiry (ways to answer a question)</li> <li>- Responding to suggestions on how to answer questions</li> </ul> <p><b>Planning</b></p> <ul style="list-style-type: none"> <li>- Beginning to recognise whether a planned test is fair</li> <li>- With support, deciding if suggested observations are suitable</li> </ul> <p><b>Predicting</b></p> <ul style="list-style-type: none"> <li>- Suggesting what might happen, often justifying with personal experience</li> </ul>	<ul style="list-style-type: none"> <li>-To know that living things depend upon each other (e.g. for food, shelter.)</li> </ul> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b></p> <ul style="list-style-type: none"> <li>- Exploring the world around them and raising their own simple questions</li> <li>- Recognising there are different types of enquiry (ways to answer a question)</li> <li>- Responding to suggestions on how to answer questions</li> </ul> <p><b>Planning</b></p> <ul style="list-style-type: none"> <li>- With support, deciding if suggested observations are suitable</li> <li>- Ordering a simple method</li> </ul> <p><b>Predicting</b></p> <ul style="list-style-type: none"> <li>- Suggesting what might happen, often justifying with personal experience</li> </ul>	<ul style="list-style-type: none"> <li>-To understand the importance of exercise, a balanced diet and hygiene for humans</li> </ul> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b></p> <ul style="list-style-type: none"> <li>- Recognising there are different types of enquiry (ways to answer a question)</li> </ul> <p><b>Measuring (quantitative data)</b></p> <ul style="list-style-type: none"> <li>- Beginning to use standard units and read simple scales to measure and compare</li> <li>- Beginning to use simple measuring equipment to make approximate measurements</li> </ul> <p><b>Researching</b></p> <ul style="list-style-type: none"> <li>- Gathering specific information from one simplified, specified source</li> </ul> <p><b>Recording (tables)</b></p>
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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	<p><b>Predicting</b> -Suggesting what might happen, often justifying with personal experience.</p> <p><b>Observing (qualitative data)</b> -Using their senses to describe, in simple terms, what they notice or what has changed.</p> <p><b>Measuring (quantitative data)</b> -Beginning to use standard units and read simple scales to measure and compare. -Beginning to use simple measuring equipment to make approximate measurements.</p> <p><b>Researching</b> -Gathering specific information from one simplified, specified source.</p> <p><b>Recording (tables)</b></p>	<p><b>Working Scientifically:</b></p> <p><b>Posing questions</b> - Exploring the world around them and raising their own simple questions - Recognising there are different types of enquiry (ways to answer a question)</p> <p><b>Researching</b> - Gathering specific information from one simplified, specified source</p> <p><b>Recording (tables)</b> - Using a prepared table to record results including: ● Numbers ● Simple observations ● Tally frequency</p> <p><b>Grouping and classifying</b> - Grouping based on visible characteristics</p>	<p>-Using non-standard units to measure and compare</p> <p><b>Recording (tables)</b> - Using a prepared table to record results including: ● Numbers ● Simple observations. ● Tally frequency</p> <p><b>Grouping and classifying</b> - Grouping based on visible characteristics</p> <p><b>Graphing</b> Representing data using pictograms and block graphs</p> <p><b>Analysing and drawing conclusions</b> - Using their results to answer simple questions - Beginning to recognise when results or observations do not match their predictions</p>	<p><b>Observing (qualitative data)</b> - Using their senses to describe, in simple terms, what they notice or what has changed</p> <p><b>Measuring (quantitative data)</b> - Beginning to use standard units and read simple scales to measure and compare - Beginning to use simple measuring equipment to make approximate measurements</p> <p><b>Recording (diagrams)</b> - Drawing and labelling simple diagrams</p> <p><b>Recording (tables)</b> - Using a prepared table to record results including: ● Numbers ● Simple observations ● Tally frequency</p> <p><b>Analysing and drawing conclusions</b></p>	<p><b>Observing (qualitative data)</b> - Using their senses to describe, in simple terms, what they notice or what has changed</p> <p><b>Researching</b> - Gathering specific information from one simplified, specified source</p> <p><b>Recording (tables)</b> - Using a prepared table to record results including: ● Numbers ● Simple observations ● Tally frequency</p> <p><b>Grouping and classifying</b> - Grouping based on visible characteristics - Organising questions to create a simple classification key</p> <p><b>Analysing and drawing conclusions</b></p>	<p>- Using a prepared table to record results including: ● Numbers ● Simple observations. ● Tally frequency</p> <p><b>Analysing and drawing conclusions</b> - Using their results to answer simple questions</p>
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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	<p>-Using a prepared table to record results including: numbers; simple observations.</p> <p><b>Grouping and classifying</b> -Grouping based on visible characteristics.</p> <p><b>Analysing and drawing conclusions</b> -Using their results to answer simple questions. -Beginning to recognise when results or observations do not match their predictions</p>			<p>- Using their results to answer simple questions - Beginning to recognise when results or observations do not match their predictions</p>	<p>- Using their results to answer simple questions - Beginning to recognise when results or observations do not match their predictions</p>	
<p><b>Making connections – Plant based materials</b></p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>• To describe how materials can be reused</li> <li>• To identify human-made and natural materials</li> <li>• To identify suitable materials based on their properties</li> <li>• To identify a material to help plant growth</li> <li>• To choose materials to create a suitable plant pot</li> </ul> <p><b>Science in action:</b></p> <ul style="list-style-type: none"> <li>• To understand how the 3Rs contribute to sustainable products</li> </ul>						



# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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	<p><b>Working scientifically:</b></p> <p>This unit revisits the working scientifically skills covered in Year 3, including:</p> <ul style="list-style-type: none"> <li>- Posing questions</li> <li>- Planning</li> <li>- Predicting</li> <li>- Observing</li> <li>- Researching</li> <li>- Recording</li> <li>- Grouping and classifying</li> <li>- Analysing and drawing conclusions</li> </ul>					
<p><b>Y3 - Ruby</b></p>	<p><b>Investigating science through stories</b> (all classes to deliver Y1 planning and differentiate appropriately)</p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>- To observe changes across the seasons</li> <li>- To describe and compare the features of animals</li> <li>- To identify differences in animal features</li> </ul>	<p><b>Forces and magnets</b></p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>-To know some examples of contact and non-contact forces</li> <li>-To know that some forces are a result of contact between two surfaces, but some forces can act at a distance (e.g. magnetism)</li> <li>-To know the North and South poles of a magnet. -To know</li> </ul>	<p><b>Light and shadows</b></p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>-To know that light travels from a source (e.g. the Sun, light bulbs and torches)</li> <li>-To know that light is needed to see things and that dark is the absence of light</li> <li>-To know that light from the Sun can be dangerous and how to protect their eyes</li> </ul>	<p><b>Plant reproduction</b></p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>-To understand the functions of the basic parts of a plant and the relationship between structure and function</li> <li>-To know that water is transported within a plant from the root, through the stem, to the leaves</li> <li>-To know that plants need water, light, air, nutrients/fertilizer and a</li> </ul>	<p><b>Rocks and soil</b></p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>-To know that rocks can be grouped based on their appearance or properties, (e.g. colour, texture, hardness, permeability.)</li> <li>-To know that rocks may contain grains, crystals or fossils</li> <li>-To know that grains and crystals appear differently and can be used to classify rocks</li> </ul>	<p><b>Animals, movement and nutrition</b></p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>-To know that animals can be grouped based on the presence of a skeleton</li> <li>-To know that the skeleton in humans and some animals is used for movement, protection and support</li> </ul>



# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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	<p>- To describe the properties of everyday materials</p> <p>- To identify animals that are carnivores, herbivores and omnivores</p> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b></p> <p>-Exploring the world around them and raising their own simple questions</p> <p>-Recognising there are different types of enquiry (ways to answer a question).</p> <p>-Responding to suggestions on how to answer questions.</p> <p><b>Planning</b></p> <p>-Beginning to recognise whether a planned test is fair.</p> <p>-With support, deciding if suggested observations are suitable.</p>	<p>some examples of magnetic materials, including iron and nickel, and how they react to a magnet and each other</p> <p>-To know some different examples of magnets, including bar, horseshoe, button and ring</p> <p>-To know some uses of magnets</p> <p>-*To know that friction is a contact force that acts between two surfaces to slow an object down</p> <p>-To know that magnetism is a non-contact force that affects objects containing magnetic metal</p> <p>-To understand that the opposite poles of a magnet attract one another and like poles repel one another</p> <p>-*To know that rougher surfaces have more friction between</p>	<p>-To know that materials reflect light</p> <p>-To know that shadows are formed when the light from a light source is blocked by an opaque object</p> <p>-To know that shadows change as a result of different factors:</p> <p>- Changing the position of the light source</p> <p>- Changing the distances between the light source, object and surface</p> <p>-To know that shadows change position and length throughout the day as the Sun changes position in the sky</p> <p><i>*This knowledge is revisited in our Year 3 Making connections unit: Does hand span affect grip strength?</i></p> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b></p>	<p>suitable temperature for growth and health</p> <p>-To understand that the needs for growth and health vary from plant to plant</p> <p>-To know the life cycle of a plant from seed to mature plant</p> <p>-*To know that flowers are the reproductive organ of a plant</p> <p>-*To know that the process of pollination is the transfer of pollen to the female (part of the) flower</p> <p>-*To know that the process of seed formation is the growth of a seed after pollination/fertilisation</p> <p>-To know some different methods of seed dispersal and the benefits of each</p> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b></p> <p>- Beginning to raise further questions during the enquiry process</p>	<p>-To know that soils are made from rocks and dead matter</p> <p>-*To understand the relationship between the properties of rocks and their uses</p> <p>-To know that fossils can form from the remains of living things</p> <p>-To know that rocks can change over time (e.g. erosion, weathering).</p> <p><b>Working Scientifically:</b></p> <p><b>Predicting</b></p> <p>Making predictions about what they think will happen by:</p> <ul style="list-style-type: none"> <li>● Using scientific knowledge and/or personal experience to explain their prediction (because...)</li> <li>● Beginning to consider cause and effect when making predictions, where appropriate</li> <li>● Predicting a trend by considering how the changing variable will affect the measured variable. (The smoother</li> </ul>	<p>-*To know that the muscular system in humans and some animals works with the skeleton for movement</p> <p>-To know the main bones in the body</p> <p>-To know that animals, including humans, need the right types and amount of nutrition</p> <p>-To understand that humans cannot make their own food and therefore eat to get the nutrition needed. -</p> <p>-*To know the main food groups (carbohydrates, protein, fats, fibre, vitamins, minerals and water) and their simple functions</p> <p>-To know that a balanced diet should include all food groups. To describe the diets of different animals</p> <p><b>Working Scientifically:</b></p>
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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	<p><b>Predicting</b> -Suggesting what might happen, often justifying with personal experience.</p> <p><b>Observing (qualitative data)</b> -Using their senses to describe, in simple terms, what they notice or what has changed.</p> <p><b>Measuring (quantitative data)</b> -Beginning to use standard units and read simple scales to measure and compare. -Beginning to use simple measuring equipment to make approximate measurements.</p> <p><b>Researching</b> -Gathering specific information from one simplified, specified source.</p> <p><b>Recording (tables)</b></p>	<p>them than smoother surfaces -To understand that the strength of different magnets may vary</p> <p><i>*This knowledge is revisited in our Year 3 Making connections unit: Does hand span affect grip strength?</i></p> <p><b>Working Scientifically:</b></p> <p><b>Planning</b> -Beginning to select from options which variables will be changed, measured and controlled - Planning a simple method, verbally and in writing - Beginning to write a simple method in numbered steps</p> <p><b>Researching</b> - Gathering specific information from a variety of sources</p>	<p>- Beginning to raise further questions during the enquiry process - Considering what makes a testable question - Beginning to recognise that there are different types of enquiry and that they are suitable for different questions - Beginning to make suggestions about how different questions could be answered</p> <p><b>Observing (qualitative data)</b> -Using their senses to describe, in more detail and with simple scientific vocabulary, what they notice or what has changed</p> <p><b>Measuring (quantitative data)</b> -Using standard units to measure and compare - Using measuring equipment with increasing accuracy</p>	<p>- Considering what makes a testable question - Beginning to recognise that there are different types of enquiry and that they are suitable for different questions - Beginning to make suggestions about how different questions could be answered</p> <p><b>Planning</b> - Beginning to suggest what observations to make and how long to make them for - Planning a simple method, verbally and in writing -Selecting and beginning to decide what simple equipment might be used to aid observations and measurements</p> <p><b>Observing (qualitative data)</b> -Using their senses to describe, in more detail and with simple scientific vocabulary,</p>	<p>the surface, the longer the distance the car will travel)</p> <p><b>Observing (qualitative data)</b> -Using their senses to describe, in more detail and with simple scientific vocabulary, what they notice or what has changed</p> <p><b>Researching</b> - Gathering specific information from a variety of sources</p> <p><b>Recording (diagrams)</b> Beginning to draw more scientific diagrams by:</p> <ul style="list-style-type: none"> <li>● Using some standard symbols</li> <li>● Drawing in 2D to produce simple line diagrams</li> <li>● Labelling with more scientific vocabulary</li> </ul> <p><b>Grouping and classifying</b> - Grouping based on visible characteristics</p>	<p><b>Measuring (quantitative data)</b> -Using standard units to measure and compare - Using measuring equipment with increasing accuracy - Reading scales with unmarked intervals between numbers</p> <p><b>Researching</b> - Gathering specific information from a variety of sources</p> <p><b>Grouping and classifying</b> - Grouping based on visible characteristics and measurable properties</p> <p><b>Analysing and drawing conclusions</b> Writing a conclusion to summarise findings using simple scientific vocabulary</p> <p><b>Evaluating</b></p>
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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	<p>-Using a prepared table to record results including: numbers; simple observations.</p> <p><b>Grouping and classifying</b> -Grouping based on visible characteristics.</p> <p><b>Analysing and drawing conclusions</b> -Using their results to answer simple questions. -Beginning to recognise when results or observations do not match their predictions</p>	<p><b>Recording (diagrams)</b> Beginning to draw more scientific diagrams by:</p> <ul style="list-style-type: none"> <li>• Using some standard symbols</li> <li>• Drawing in 2D to produce simple line diagrams</li> <li>• Labelling with more scientific vocabulary</li> </ul> <p><b>Graphing</b> - Representing data using bar charts</p> <p><b>Analysing and drawing conclusions</b> - Writing a conclusion to summarise findings using simple scientific vocabulary - Beginning to suggest how one variable may have affected another -Beginning to quote results as evidence of relationships</p>	<p>- Reading scales with unmarked intervals between numbers</p> <p><b>Recording (tables)</b> - Using a prepared table to record results including more detailed observations - Using tables with more than two columns - Identifying and adding headings to tables - Beginning to design simple results tables</p> <p><b>Grouping and classifying</b> - Grouping based on visible characteristics and measurable properties</p> <p><b>Graphing</b> - Reading the value of bars with greater accuracy</p> <p><b>Analysing and drawing conclusions</b> - Writing a conclusion to summarise findings using simple scientific vocabulary</p>	<p>what they notice or what has changed</p> <p><b>Measuring (quantitative data)</b> -Using standard units to measure and compare - Reading scales with unmarked intervals between numbers</p> <p><b>Recording (diagrams)</b> Beginning to draw more scientific diagrams by:</p> <ul style="list-style-type: none"> <li>• Using some standard symbols</li> <li>• Drawing in 2D to produce simple line diagrams</li> <li>• Labelling with more scientific vocabulary</li> </ul> <p><b>Recording (tables)</b> - Using a prepared table to record results including more detailed observations - Using tables with more than two columns - Identifying and adding headings to tables - Beginning to design simple results tables</p>	<p>and measurable properties</p> <p><b>Graphing</b> - Representing data using bar charts - Drawing bars with greater accuracy - Reading the value of bars with greater accuracy</p> <p><b>Analysing and drawing conclusions</b> - Beginning to use identified patterns to predict new values or trends</p>	<p>Beginning to identify new questions that would further the enquiry</p>
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025

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			<ul style="list-style-type: none"> <li>- Beginning to suggest how one variable may have affected another</li> <li>- Beginning to quote results as evidence of relationships</li> <li>- Identifying data that does not fit a pattern (anomalous data)</li> <li>- Recognising when results or observations do not match their predictions</li> <li>- Beginning to use identified patterns to predict new values or trends</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>- Beginning to identify steps in the method that need changing and suggest improvements</li> <li>- Identifying which variables were difficult to control and suggesting how to better control them</li> <li>- Commenting on the degree of trust by reflecting on:               <ul style="list-style-type: none"> <li>● Results that do not fit a pattern (anomalies). ●</li> </ul> </li> </ul>	<p><b>Analysing and drawing conclusions</b></p> <ul style="list-style-type: none"> <li>- Writing a conclusion to summarise findings using simple scientific vocabulary</li> <li>- Beginning to suggest how one variable may have affected another</li> <li>- Beginning to quote results as evidence of relationships</li> <li>- Identifying data that does not fit a pattern (anomalous data)</li> <li>- Recognising when results or observations do not match their predictions</li> <li>- Beginning to use identified patterns to predict new values or trends</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>- Beginning to identify steps in the method that need changing and suggest improvements</li> <li>- Identifying which variables were difficult to control and</li> </ul>		
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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			<p>The quality of results (accurate measurements and maintaining control variables)</p> <ul style="list-style-type: none"> <li>- Beginning to identify new questions that would further the enquiry</li> </ul>	<p>suggesting how to better control them</p> <ul style="list-style-type: none"> <li>- Commenting on the degree of trust by reflecting on:             <ul style="list-style-type: none"> <li>• Results that do not fit a pattern (anomalies).</li> <li>• The quality of results (accurate measurements and maintaining control variables)</li> </ul> </li> <li>- Beginning to identify new questions that would further the enquiry</li> </ul>		
<p><b>Making connections – Does hand span affect grip strength?</b></p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>• To revise the units <i>Movement and nutrition</i> and <i>Rocks and soil</i>, <i>Plant reproduction</i>, <i>Forces and magnets</i>, <i>Uses of materials</i> and <i>Light and shadows</i>.</li> </ul> <p><b>Working Scientifically:</b></p> <p>This unit revisits the working scientifically skills covered in Year 3, including:</p> <ul style="list-style-type: none"> <li>- Posing questions</li> <li>- Planning</li> <li>- Predicting</li> <li>- Observing</li> <li>- Measuring</li> <li>- Recording</li> <li>- Graphing</li> </ul>						



# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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	<ul style="list-style-type: none"> <li>- Analysing and drawing conclusions</li> <li>- Evaluating</li> </ul>					
<b>Y4 - Amethyst</b>	<p><b>Digestion and food (Animals, including humans)</b></p> <p><i>To know (linked to Science NC objectives):</i></p> <ul style="list-style-type: none"> <li>-*To know the main organs of the human digestive system (mouth, teeth, tongue, oesophagus, stomach, small and large intestines) and describe their simple functions</li> <li>-To know the different types of human teeth (incisor, canine, premolar and molar) and their simple functions</li> <li>-To know that teeth can be damaged, including the effect of sugary and acidic food</li> <li>-To know that it is important to brush teeth twice a day,</li> </ul>	<p><b>Sound and vibrations What sounds do you love and why?</b></p> <p><i>To know (linked to Science NC objectives):</i></p> <ul style="list-style-type: none"> <li>-*To understand that sound is a result of vibrations</li> <li>-*To know that vibrations from sounds travel through mediums to the ear</li> <li>-To know that an insulating material reduces the amount of vibrations that pass through it and this can be used to protect the ears from damaging sounds</li> <li>-To know that different materials provide different amounts of insulation against sound</li> <li>-To know a variety of ways to change the</li> </ul>	<p><b>States of matter</b></p> <p><i>To know (linked to Science NC objectives):</i></p> <ul style="list-style-type: none"> <li>-To know that all substances around us can exist as solids, liquids and gases</li> <li>-To know that a property of a solid is that it keeps its shape unless a force is applied to it</li> <li>-To know that a property of a liquid can flow freely and take on the shape of a container</li> <li>-To know that a property of a gas does not have a fixed shape and can escape from an unsealed container</li> <li>-To know that heating causes solids to turn into liquids (melting) and liquids to turn into gases (evaporating)</li> <li>-To know that cooling causes gases to turn into liquids (condensing) and</li> </ul>	<p><b>Electricity and circuits</b></p> <p><i>To know (linked to Science NC objectives):</i></p> <ul style="list-style-type: none"> <li>-To know that all electrical appliances need a power source, including batteries or mains electricity</li> <li>-To know that an electrical circuit needs a complete path for the electric charge to flow through</li> <li>-To know the main components in a simple series circuit</li> <li>-To know the precautions for working safely with electricity</li> <li>-To know that some materials allow electric charge to pass through them easily and these are known as electrical conductors (e.g. metals)</li> <li>-To know that some materials do not allow electric charge to pass</li> </ul>	<p><b>Making connections – How does the flow of liquids compare?</b></p> <p><i>To know (linked to Science NC objectives):</i></p> <ul style="list-style-type: none"> <li>-Recaps key knowledge from Y4 topics</li> </ul> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b></p> <ul style="list-style-type: none"> <li>- Beginning to raise further questions during the enquiry process</li> <li>- Beginning to recognise that there are different types of enquiry and that they are suitable for different questions</li> </ul> <p><b>Planning</b></p> <ul style="list-style-type: none"> <li>- Beginning to select from options which variables will be changed, measured and controlled</li> </ul> <p><b>Predicting</b></p>	<p><b>Classification and changing habitats</b></p> <p><i>To know (linked to Science NC objectives):</i></p> <ul style="list-style-type: none"> <li>-To know that living things can be grouped in different ways</li> <li>-*To know that a classification key can be used to group and identify plants and animals</li> <li>-To know that vertebrates are animals which have a backbone and invertebrates are animals which do not have a backbone</li> <li>-To know that plants can be grouped into flowering or non-flowering varieties</li> <li>-To know that flowering plants include grasses and</li> </ul>



# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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	<p>make good food choices and visit the dentist regularly          -To describe the teeth of carnivores and herbivores, and understand why they are different          -To know that predators hunt for their food and prey are the animals being hunted          -To know that producers make their own food          -To know that food chains begin with a producer followed by consumers, and arrows to show the energy passed on</p> <p><i>*This knowledge is revisited in our Year 4 Making connections unit: How does the flow of liquids compare?</i></p> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b></p>	<p>pitch or volume of a sound          -To know that quicker vibrations cause higher-pitched sounds and slower vibrations cause lower-pitched sounds          -To know that stronger vibrations cause louder sounds and weaker vibrations cause quieter sounds          -To know that sounds get fainter as the distance from the sound source increases</p> <p><b>Working Scientifically:</b></p> <p><b>Planning</b>          - Beginning to select from options which variables will be changed, measured and controlled</p> <p><b>Observing (qualitative data)</b>          - Using their senses to describe, in more detail and with simple scientific vocabulary,</p>	<p>liquids to turn into solids (freezing)          -To know that water can exist as a solid, a liquid or a gas          -To know that the melting point of water is zero degrees Celsius and the boiling point of water is 100 degrees Celsius          -To know that water flows around the world in a continuous process called the water cycle          -*To know that in the water cycle, evaporation is when bodies of water are heated and turn into water vapour          -*To know that in the water cycle, condensation is the process of water vapour cooling to form water droplets in clouds, which can result in precipitation          -*To know that the rate of evaporation increases as temperature rises</p> <p><b>Working Scientifically:</b></p>	<p>through them and these are known as electrical insulators (e.g wood and plastic)          -*To know that metals are used for cables and wires because they are good conductors of electricity          -*To know that plastic is used to cover cables and wires because it is a good insulator          -*To understand that an open switch breaks a series circuit so the components will be off          -*To understand that a closed switch completes a series circuit so the components will be on          -To understand the relationship between bulb brightness and the number of cells in a circuit</p> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b>          - Considering what makes a testable question</p>	<p>-Making predictions about what they think will happen by:          ● Using scientific knowledge and/or personal experience to explain their prediction (because...)          ● Beginning to consider cause and effect when making predictions, where appropriate          ● Predicting a trend by considering how the changing variable will affect the measured variable. (The smoother the surface, the longer the distance the car will travel)</p> <p><b>Measuring (quantitative data)</b>          - Using standard units to measure and compare          - Using measuring equipment with increasing accuracy</p> <p><b>Recording (tables)</b>          - Using a prepared table to record results</p>	<p>non-flowering plants includes ferns and mosses          -To know that there are five main vertebrate groups: birds, mammals, reptiles, amphibians and fish          -To know that invertebrate groups include snails, slugs, worms, spiders and insects          -*To know that habitats can change throughout the year and this can be dangerous for living things          -To know that humans can have both a positive and negative impact on the environment</p> <p><b>Working Scientifically:</b></p> <p><b>Observing (qualitative data)</b>          - Using their senses to describe, in more detail and with simple</p>
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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	<ul style="list-style-type: none"> <li>- Beginning to raise further questions during the enquiry process</li> <li>- Beginning to recognise that there are different types of enquiry and that they are suitable for different questions</li> </ul> <p><b>Planning</b></p> <ul style="list-style-type: none"> <li>- Beginning to select from options which variables will be changed, measured and controlled</li> </ul> <p><b>Observing (qualitative data)</b></p> <ul style="list-style-type: none"> <li>- Using their senses to describe, in more detail and with simple scientific vocabulary, what they notice or what has changed</li> </ul> <p><b>Measuring (quantitative data)</b></p> <ul style="list-style-type: none"> <li>- Using standard units to measure and compare</li> </ul>	<p>what they notice or what has changed</p> <p><b>Researching</b></p> <ul style="list-style-type: none"> <li>- Gathering specific information from a variety of sources</li> </ul> <p><b>Graphing</b></p> <ul style="list-style-type: none"> <li>- Representing data using bar charts</li> <li>- Drawing bars with greater accuracy</li> <li>- Reading the value of bars with greater accuracy</li> </ul> <p><b>Analysing and drawing conclusions</b></p> <ul style="list-style-type: none"> <li>- Recognising when results or observations do not match their predictions</li> </ul>	<p><b>Posing questions</b></p> <ul style="list-style-type: none"> <li>- Considering what makes a testable question</li> <li>- Beginning to make suggestions about how different questions could be answered</li> </ul> <p><b>Predicting</b></p> <ul style="list-style-type: none"> <li>- Making predictions about what they think will happen by: <ul style="list-style-type: none"> <li>● Using scientific knowledge and/or personal experience to explain their prediction (because...)</li> <li>● Beginning to consider cause and effect when making predictions, where appropriate</li> <li>● Predicting a trend by considering how the changing variable will affect the measured variable. (The smoother the surface, the longer the distance the car will travel)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- Beginning to recognise that there are different types of enquiry and that they are suitable for different questions</li> <li>- Beginning to make suggestions about how different questions could be answered</li> </ul> <p><b>Planning</b></p> <ul style="list-style-type: none"> <li>- Beginning to select from options which variables will be changed, measured and controlled</li> <li>- Planning a simple method, verbally and in writing</li> <li>- Beginning to write a simple method in numbered steps</li> <li>- Selecting and beginning to decide what simple equipment might be used to aid observations and measurements</li> </ul> <p><b>Observing (qualitative data)</b></p> <ul style="list-style-type: none"> <li>- Using their senses to describe, in more detail and with simple</li> </ul>	<ul style="list-style-type: none"> <li>including more detailed observations</li> <li>- Using tables with more than two columns</li> <li>- Identifying and adding headings to tables</li> <li>- Beginning to design simple results tables</li> </ul> <p><b>Graphing</b></p> <ul style="list-style-type: none"> <li>- Representing data using bar charts</li> <li>- Drawing bars with greater accuracy</li> <li>- Reading the value of bars with greater accuracy</li> </ul> <p><b>Analysing and drawing conclusions</b></p> <ul style="list-style-type: none"> <li>- Writing a conclusion to summarise findings using simple scientific vocabulary</li> <li>- Beginning to suggest how one variable may have affected another</li> <li>- Beginning to quote results as evidence of relationships</li> <li>- Identifying data that does not fit a pattern (anomalous data)</li> </ul>	<p>scientific vocabulary, what they notice or what has changed</p> <p><b>Researching</b></p> <ul style="list-style-type: none"> <li>- Gathering specific information from a variety of sources</li> </ul> <p><b>Recording (tables)</b></p> <ul style="list-style-type: none"> <li>- Using a prepared table to record results including more detailed observations</li> <li>- Using tables with more than two columns</li> </ul> <p><b>Classification keys</b></p> <ul style="list-style-type: none"> <li>- Grouping based on visible characteristics and measurable properties</li> <li>- Populating a pre-prepared branching and number key</li> <li>- Choosing appropriate questions for classification keys</li> </ul>
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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	<p>- Using measuring equipment with increasing accuracy</p> <p><b>Recording (tables)</b></p> <ul style="list-style-type: none"> <li>- Using a prepared table to record results including more detailed observations</li> <li>- Using tables with more than two columns</li> <li>- Beginning to design simple results tables</li> </ul> <p><b>Classification keys</b></p> <ul style="list-style-type: none"> <li>- Grouping based on visible characteristics and measurable properties</li> </ul> <p><b>Analysing and drawing conclusions</b></p> <ul style="list-style-type: none"> <li>- Writing a conclusion to summarise findings using simple scientific vocabulary</li> <li>- Beginning to suggest how one variable may have affected another</li> <li>- Beginning to quote results as evidence of relationships</li> </ul>		<p><b>Observing (qualitative data)</b></p> <ul style="list-style-type: none"> <li>- Using their senses to describe, in more detail and with simple scientific vocabulary, what they notice or what has changed</li> </ul> <p><b>Measuring (quantitative data)</b></p> <ul style="list-style-type: none"> <li>- Using standard units to measure and compare</li> <li>- Using measuring equipment with increasing accuracy</li> <li>- Reading scales with unmarked intervals between numbers</li> </ul> <p><b>Researching</b></p> <ul style="list-style-type: none"> <li>- Gathering specific information from a variety of sources</li> </ul> <p><b>Recording (diagrams)</b></p> <ul style="list-style-type: none"> <li>- Beginning to draw more scientific diagrams by             <ul style="list-style-type: none"> <li>● Using some standard symbols</li> </ul> </li> </ul>	<p>scientific vocabulary, what they notice or what has changed</p> <p><b>Recording (diagrams)</b></p> <ul style="list-style-type: none"> <li>- Beginning to draw more scientific diagrams by             <ul style="list-style-type: none"> <li>● Using some standard symbols</li> <li>● Drawing in 2D to produce simple line diagrams</li> <li>● Labelling with more scientific vocabulary</li> </ul> </li> </ul> <p><b>Recording (tables)</b></p> <ul style="list-style-type: none"> <li>- Using a prepared table to record results including more detailed observations</li> <li>- Using tables with more than two columns</li> <li>- Identifying and adding headings to tables</li> </ul> <p><b>Classification keys</b></p> <ul style="list-style-type: none"> <li>- Grouping based on visible characteristics and measurable properties</li> </ul>	<p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>- Beginning to identify steps in the method that need changing and suggest improvements</li> <li>- Beginning to identify which variables were difficult to control and suggesting how to better control them</li> <li>- Commenting on the degree of trust by reflecting on:             <ul style="list-style-type: none"> <li>● Results that do not fit a pattern (anomalies)</li> <li>● The quality of results (accurate measurements and maintaining control variables)</li> </ul> </li> <li>- Beginning to identify new questions that would further the enquiry</li> </ul>	
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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	<p>- Identifying data that does not fit a pattern (anomalous data)</p> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>- Beginning to identify steps in the method that need changing and suggest improvements</li> <li>- Beginning to identify which variables were difficult to control and suggesting how to better control them</li> <li>- Commenting on the degree of trust by reflecting on: <ul style="list-style-type: none"> <li>• Results that do not fit a pattern (anomalies)</li> <li>• The quality of results (accurate measurements and maintaining control variables)</li> </ul> </li> <li>- Beginning to identify new questions that would further the enquiry</li> </ul>		<ul style="list-style-type: none"> <li>• Drawing in 2D to produce simple line diagrams</li> <li>• Labelling with more scientific vocabulary</li> </ul> <p><b>Analysing and drawing conclusions</b></p> <ul style="list-style-type: none"> <li>- Writing a conclusion to summarise findings using simple scientific vocabulary</li> <li>- Beginning to use identified patterns to predict new values or trends</li> </ul>	<p><b>Analysing and drawing conclusions</b></p> <ul style="list-style-type: none"> <li>- Writing a conclusion to summarise findings using simple scientific vocabulary</li> <li>- Beginning to suggest how one variable may have affected another</li> <li>- Beginning to use identified patterns to predict new values or trends</li> </ul>		
<b>Y5 – Sapphire</b>	<b>Mixtures and separation (materials)</b>	<b>Earth and Space</b>	<b>Unbalanced forces (Forces)</b>	<b>Human timeline (Animals, including humans)</b>	<b>Properties and changes of materials</b>	<b>Life cycles and reproduction (Living)</b>



# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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<p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>-To know that some substances will dissolve in a liquid to form a solution</li> <li>-To know the factors that affect the rate of dissolving, including temperature and stirring</li> <li>-*To know that some liquids and solids can be separated using sieving, filtering and evaporation and to describe these processes</li> </ul> <p><i>*This knowledge is revisited in our Year 5 Making connections unit: Does the size of an asteroid affect its impact strength?</i></p> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b></p> <ul style="list-style-type: none"> <li>- Selecting the most appropriate enquiry method to answer</li> </ul>	<p><b>How has Space Travel Evolved?</b></p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>-To know that the Sun is a star at the centre of our solar system</li> <li>-*To know that the Sun, Earth and Moon are approximately spherical bodies</li> <li>-To know the names, order and relative positions of the planets and other main celestial bodies</li> <li>-To know that a moon is a celestial body that orbits a planet and give examples of moons that orbit other planets</li> <li>-*To know that the Earth and other planets orbit around the Sun</li> <li>-To know that the tilt of the Earth and its orbit around the Sun causes the seasons</li> </ul>	<p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>-To know that gravity is a non-contact force that pulls objects together</li> <li>-*To know that air resistance and water resistance are both types of friction</li> <li>-*To know that unsupported objects fall towards the Earth because of gravity</li> <li>-To know that friction, air resistance and water resistance act in the opposite direction to a moving object</li> <li>-To know that when forces are imbalanced, the speed, shape or direction of an object changes</li> <li>-To know that when forces are balanced the speed, shape or direction of an object stays the same</li> <li>-To know that some mechanisms including levers, pulleys and gears</li> </ul>	<p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>-To describe the human life cycle, including the stages of growth and development (baby, toddler, child, teenager, adult, elderly)</li> <li>-To describe changes that occur during puberty (in boys and girls)</li> <li>-To know that gestation periods vary across mammals</li> </ul> <p><b>Working scientifically:</b></p> <p><b>Predicting</b></p> <p>Making increasingly scientific predictions by:</p> <ul style="list-style-type: none"> <li>● Using previous scientific knowledge and evidence to inform their predictions</li> <li>● Using scientific language to describe a potential outcome or explain why they think something will happen</li> </ul>	<p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>-*To describe a broader range of materials and their properties, including hardness, solubility, transparency, conductivity and response to magnets</li> <li>-To understand that dissolving, mixing and changes of state are reversible changes</li> <li>-To understand that some changes result in the formation of new materials and that these are usually irreversible. (e.g. burning, rusting, the action of acid on bicarbonate of soda.)</li> </ul> <p><b>Working Scientifically:</b></p> <p><b>Planning</b></p> <ul style="list-style-type: none"> <li>- Writing a method including detail about how to ensure control</li> </ul>	<p><b>things and their habitats)</b></p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>-To know that a life cycle shows the changes an animal or plant goes through until the reproduction of a new generation when the cycle starts again</li> <li>-To know that all living things must reproduce for the species to survive</li> <li>-To know that sexual reproduction requires two parents, whereas asexual reproduction only requires one parent</li> <li>-*To know that there are different processes plants and animals use to reproduce (asexual and sexual reproduction)</li> </ul>
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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	<p>questions and give justification</p> <p><b>Planning</b> - Suggesting which variables will be changed, measured and controlled - Making and explaining decisions about what observations to make and how long to make them for</p> <p><b>Observing (qualitative data)</b> - Using their senses to describe, in detail and with a broader range of scientific vocabulary, what they notice or what has changed</p> <p><b>Researching</b> - Gathering answers to open-ended questions from a variety of sources</p> <p><b>Recording (diagrams)</b></p>	<p>-To know that the Moon orbits around the Earth -To understand how the Earth's rotation causes day and night and the apparent movement of the Sun across the sky</p> <p><i>*This knowledge is revisited in our Year 5 Making connections unit: Does the size of an asteroid affect its impact strength?</i></p> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b> - Raising questions throughout the enquiry process - Identifying testable questions - Selecting the most appropriate enquiry method to answer questions and give justification</p> <p><b>Predicting</b></p>	<p>allow a smaller force to have a greater effect -To know that rougher surfaces have more friction between them than smoother surfaces and how that may affect movement -To know that the larger the surface area of an object the greater the air or water resistance it creates</p> <p><b>Working Scientifically:</b></p> <p><b>Planning</b> - Suggesting which variables will be changed, measured and controlled - Making and explaining decisions about what observations to make and how long to make them for - Writing a method including detail about how to ensure control variables are kept the same - Writing a method that considers reliability by</p>	<ul style="list-style-type: none"> <li>• Making links between topics to evidence a prediction</li> </ul> <p><b>Graphing</b> - Representing data by using line graphs and scatter graphs - Plotting points with greater accuracy - Reading the value of plotted points with greater accuracy</p> <p><b>Analysing and drawing conclusions</b> - Writing a conclusion to summarise findings using increasingly complex scientific vocabulary -Suggesting with increasing independence how one variable may have affected another -Quoting relevant data as evidence of relationships --Quoting relevant data as evidence of relationships</p>	<p>variables are kept the same - Suggesting the most appropriate equipment to make observations and measurements and justifying their choices</p> <p><b>Predicting</b> Making increasingly scientific predictions by:  <ul style="list-style-type: none"> <li>• Using previous scientific knowledge and evidence to inform their predictions</li> <li>• Using scientific language to describe a potential outcome or explain why they think something will happen</li> <li>• Making links between topics to evidence a prediction</li> </ul> </p> <p><b>Measuring (quantitative data)</b> - Using standard units to measure and compare with increasing precision (decimals)</p> <p><b>Recording (tables)</b></p>	<p><b>Working Scientifically:</b></p> <p><b>Posing questions</b> - Raising questions throughout the enquiry process - Identifying testable questions - Selecting the most appropriate enquiry method to answer questions and give justification</p> <p><b>Planning</b> - Suggesting which variables will be changed, measured and controlled - Making and explaining decisions about what observations to make and how long to make them for - Suggesting the most appropriate equipment to make observations and measurements and justifying their choices</p> <p><b>Predicting</b></p>
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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	<p>Drawing scientific diagrams by:</p> <ul style="list-style-type: none"> <li>● Using a wider range of standard symbols</li> <li>● Drawing with increasing accuracy</li> <li>● Labelling with a broader range of scientific vocabulary</li> <li>● Annotating diagrams to explain concepts and convey opinions</li> </ul>	<p>Making increasingly scientific predictions by:</p> <ul style="list-style-type: none"> <li>● Using previous scientific knowledge and evidence to inform their predictions</li> <li>● Using scientific language to describe a potential outcome or explain why they think something will happen</li> <li>● Making links between topics to evidence a prediction</li> </ul> <p><b>Measuring (quantitative data)</b></p> <ul style="list-style-type: none"> <li>- Using standard units to measure and compare with increasing precision (decimals)</li> <li>- Reading a wider variety of scales with unmarked intervals between numbers</li> </ul> <p><b>Recording (diagrams)</b></p> <p>Drawing scientific diagrams by:</p> <ul style="list-style-type: none"> <li>● Using a wider range of standard symbols</li> </ul>	<p>planning repeated readings</p> <ul style="list-style-type: none"> <li>- Suggesting the most appropriate equipment to make observations and measurements and justifying their choices</li> </ul> <p><b>Recording (diagrams)</b></p> <p>Drawing scientific diagrams by:</p> <ul style="list-style-type: none"> <li>● Using a wider range of standard symbols</li> <li>● Drawing with increasing accuracy</li> <li>● Labelling with a broader range of scientific vocabulary</li> <li>● Annotating diagrams to explain concepts and convey opinions</li> </ul> <p><b>Recording (tables)</b></p> <ul style="list-style-type: none"> <li>- Using tables with columns that allow for repeat readings</li> <li>- Suggesting headings to tables, including units</li> <li>- Designing results tables with increasing independence with consideration of</li> </ul>	<ul style="list-style-type: none"> <li>- Using identified patterns to predict new values or trends</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>-Commenting on the degree of trust by also reflecting on: <ul style="list-style-type: none"> <li>● Accuracy (human error with equipment)</li> <li>● Reliability (repeating results)</li> <li>● Sources of information (e.g. websites, books)</li> </ul> </li> <li>-Deciding what data to collect to further test direct relationships</li> </ul> <p><b>Making connections – Does the size of an asteroid affect its impact strength?</b></p> <p><b>To know (linked to Science NC objectives):</b></p> <ul style="list-style-type: none"> <li>-Recaps key knowledge from Y5 topics</li> </ul> <p><b>Working scientifically:</b></p> <p><b>Posing questions</b></p>	<ul style="list-style-type: none"> <li>- Suggesting headings to tables, including units</li> <li>- Designing results tables with increasing independence with consideration of variables where applicable</li> </ul> <p><b>Analysing and drawing conclusions</b></p> <ul style="list-style-type: none"> <li>- Suggesting with increasing independence how one variable may have affected another</li> <li>- Quoting relevant data as evidence of relationships</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>- Commenting on the degree of trust by also reflecting on: <ul style="list-style-type: none"> <li>● Accuracy (human error with equipment)</li> <li>● Reliability (repeating results)</li> <li>● Sources of information (e.g. websites, books)</li> </ul> </li> </ul>	<p>Making increasingly scientific predictions by:</p> <ul style="list-style-type: none"> <li>● Using previous scientific knowledge and evidence to inform their predictions</li> <li>● Using scientific language to describe a potential outcome or explain why they think something will happen</li> <li>● Making links between topics to evidence a prediction</li> </ul> <p><b>Observing (qualitative data)</b></p> <ul style="list-style-type: none"> <li>- Using their senses to describe, in detail and with a broader range of scientific vocabulary, what they notice or what has changed</li> </ul> <p><b>Researching</b></p> <ul style="list-style-type: none"> <li>- Gathering answers to open-ended questions from a variety of sources</li> </ul>
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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		<ul style="list-style-type: none"> <li>● Drawing with increasing accuracy</li> <li>● Labelling with a broader range of scientific vocabulary</li> <li>● Annotating diagrams to explain concepts and convey opinions</li> </ul> <p><b>Recording (tables)</b></p> <ul style="list-style-type: none"> <li>- Suggesting headings to tables, including units</li> <li>- Designing results tables with increasing independence with consideration of variables where applicable</li> </ul> <p><b>Graphing</b></p> <ul style="list-style-type: none"> <li>- Reading the value of plotted points with greater accuracy</li> </ul> <p><b>Analysing and drawing conclusions</b></p> <ul style="list-style-type: none"> <li>- Writing a conclusion to summarise findings using increasingly complex scientific vocabulary</li> </ul>	<p>variables where applicable</p> <ul style="list-style-type: none"> <li>- Calculating the mean average</li> </ul> <p><b>Graphing</b></p> <ul style="list-style-type: none"> <li>- Representing data by using line graphs and scatter graphs</li> <li>- Plotting points with greater accuracy</li> <li>- Reading the value of plotted points with greater accuracy</li> </ul> <p><b>Analysing and drawing conclusions</b></p> <ul style="list-style-type: none"> <li>- Writing a conclusion to summarise findings using increasingly complex scientific vocabulary</li> <li>-Suggesting with increasing independence how one variable may have affected another</li> <li>-Quoting relevant data as evidence of relationships</li> <li>--Quoting relevant data as evidence of relationships</li> <li>-Comparing individual, class and/or model data</li> </ul>	<ul style="list-style-type: none"> <li>- Raising questions throughout the enquiry process</li> <li>- Identifying testable questions</li> <li>- Selecting the most appropriate enquiry method to answer questions and give justification</li> </ul> <p><b>Planning</b></p> <ul style="list-style-type: none"> <li>- Suggesting which variables will be changed, measured and controlled</li> </ul> <p><b>Predicting</b></p> <p>Making increasingly scientific predictions by:</p> <ul style="list-style-type: none"> <li>● Using previous scientific knowledge and evidence to inform their predictions</li> <li>● Using scientific language to describe a potential outcome or explain why they think something will happen</li> <li>● Making links between topics to evidence a prediction</li> </ul>		<p><b>Graphing</b></p> <ul style="list-style-type: none"> <li>- Representing data by using line graphs and scatter graphs</li> <li>- Plotting points with greater accuracy</li> <li>- Reading the value of plotted points with greater accuracy</li> </ul> <p><b>Analysing and drawing conclusions</b></p> <ul style="list-style-type: none"> <li>- Writing a conclusion to summarise findings using increasingly complex scientific vocabulary</li> <li>-Suggesting with increasing independence how one variable may have affected another</li> <li>-Quoting relevant data as evidence of relationships</li> <li>-Comparing individual, class and/or model data to the prediction and recognising when they do not match</li> <li>-Using identified patterns to predict new values or trends</li> </ul>
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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		<p>- Quoting relevant data as evidence of relationships</p> <p>- Using identified patterns to predict new values or trends</p>	<p>to the prediction and recognising when they do not match</p> <p><b>Evaluating</b></p> <p>-Identifying steps in the method that need changing and suggesting improvements</p> <p>-Identifying which variables were difficult to control and suggesting how to better control them</p> <p>-Commenting on the degree of trust by also reflecting on:</p> <ul style="list-style-type: none"> <li>● Accuracy (human error with equipment)</li> <li>● Reliability (repeating results)</li> <li>● Sources of information (e.g. websites, books)</li> </ul>	<p><b>Measuring (quantitative data)</b></p> <p>- Using standard units to measure and compare with increasing precision (decimals)</p> <p>- Reading a wider variety of scales with unmarked intervals between numbers</p> <p><b>Recording (diagrams)</b></p> <p>Drawing scientific diagrams by:</p> <ul style="list-style-type: none"> <li>● Using a wider range of standard symbols</li> <li>● Drawing with increasing accuracy</li> <li>● Labelling with a broader range of scientific vocabulary</li> <li>● Annotating diagrams to explain concepts and convey opinions</li> </ul> <p><b>Recording (tables)</b></p> <p>- Using tables with columns that allow for repeat readings</p> <p>- Suggesting headings to tables, including units</p> <p>- Designing results tables with increasing</p>		<p><b>Evaluating</b></p> <p>-Deciding what data to collect to further test direct relationships</p>
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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				<p>independence with consideration of variables where applicable</p> <ul style="list-style-type: none"><li>- Calculating the mean average</li></ul> <p><b>Graphing</b></p> <ul style="list-style-type: none"><li>- Representing data by using line graphs and scatter graphs</li><li>- Plotting points with greater accuracy</li><li>- Reading the value of plotted points with greater accuracy</li></ul> <p><b>Analysing and drawing conclusions</b></p> <ul style="list-style-type: none"><li>- Writing a conclusion to summarise findings using increasingly complex scientific vocabulary</li><li>- Suggesting with increasing independence how one variable may have affected another</li><li>- Quoting relevant data as evidence of relationships</li></ul>		
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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				<p>--Quoting relevant data as evidence of relationships</p> <p>-Comparing individual, class and/or model data to the prediction and recognising when they do not match</p> <p>-Using identified patterns to predict new values or trends</p> <p><b>Evaluating</b></p> <p>-Identifying steps in the method that need changing and suggesting improvements</p> <p>-Identifying which variables were difficult to control and suggesting how to better control them</p> <p>-Commenting on the degree of trust by also reflecting on:</p> <ul style="list-style-type: none"> <li>● Accuracy (human error with equipment)</li> <li>● Reliability (repeating results)</li> <li>● Sources of information (e.g. websites, books)</li> </ul>		
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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				- Deciding what data to collect to further test direct relationships		
Y6 – Topaz	<p><b>Classifying big and small (Living things and their habitats)</b></p> <p><i>To know (linked to Science NC objectives):</i></p> <ul style="list-style-type: none"> <li>-To know that 'organism' is a term used to refer to an individual living thing</li> <li>-To know that micro-organisms are organisms that are incredibly small and cannot usually be seen by the naked eye</li> <li>-*To know the characteristics of the different groups of vertebrate and commonly found invertebrates.</li> </ul> <p><i>*This knowledge is revisited in our Year 6 Making connections unit: Are some sunglasses safer than others?</i></p>	<p><b>Circulation and health (Animals, including humans)</b></p> <p><i>To know (linked to Science NC objectives):</i></p> <ul style="list-style-type: none"> <li>-To know the main parts of the human circulatory system (heart, blood vessels and blood)</li> <li>-To know that the heart pumps blood around the body</li> <li>-To know that the blood vessels transport blood around the body</li> <li>-To know that the blood transports vital substances around the body, including oxygen and nutrients</li> <li>-To understand the relationships between different organ systems</li> <li>-*To understand the impact of diet, exercise, drugs and</li> </ul>	<p><b>Light and reflection (Energy)</b></p> <p><i>To know (linked to Science NC objectives):</i></p> <ul style="list-style-type: none"> <li>-To know that light travels in a straight line from a light source</li> <li>-*To understand that luminous objects are seen as a result of light directly entering the eye, whereas non-luminous objects reflect light into the eye</li> <li>-To know that shiny surfaces reflect light uniformly</li> <li>-*To know that when light is reflected off a surface, its direction changes</li> <li>-To know that mirrors and periscopes work using reflection of light on smooth surfaces</li> <li>-To understand why shadows have the same shape as the objects that</li> </ul>	<p><b>Evolution and inheritance (Living things and their habitats)</b></p> <p><i>To know (linked to Science NC objectives):</i></p> <ul style="list-style-type: none"> <li>-To know that living things have changed over time</li> <li>-To know that fossils provide us with information about living things that inhabited the Earth millions of years ago</li> <li>-*To know that characteristics are passed from parents to their offspring, but that all offspring vary from their parents</li> <li>-*To know that over time, variation in offspring can affect animals' chances of survival in particular environments</li> </ul>	<p><b>Circuits, batteries and switches (Energy)</b></p> <p><b>How have Scientists and inventors changed our world?</b></p> <p><i>To know (linked to Science NC objectives):</i></p> <ul style="list-style-type: none"> <li>-*To know a wider variety of components in a series circuit (including buzzer and motor)</li> <li>-*To know the conventions used to draw circuit diagrams, including the recognised symbols for common components and using straight lines</li> <li>-To know that the voltage of a circuit can be changed and how this affects bulb brightness (or buzzer volume)</li> </ul>	<p><b>Making connections – Are some sunglasses safer than others?</b></p> <p><i>To know (linked to Science NC objectives):</i></p> <ul style="list-style-type: none"> <li>-Recaps key knowledge from Y5 topics</li> </ul> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b></p> <ul style="list-style-type: none"> <li>- Raising questions throughout the enquiry process</li> <li>- Identifying testable questions</li> <li>- Selecting the most appropriate enquiry method to answer questions and give justification</li> </ul> <p><b>Planning</b></p> <ul style="list-style-type: none"> <li>- Suggesting which variables will be</li> </ul>



# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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	<p><b>Working Scientifically:</b></p> <p><b>Observing (qualitative data)</b> - Using their senses to describe, in detail and with a broader range of scientific vocabulary, what they notice or what has changed</p> <p><b>Grouping and classifying</b> - Grouping in a broader range of contexts - Organising the layout of number and branching keys - Formulating appropriate questions for classification keys</p>	<p>lifestyle on the way a body functions -To know that the heart rate is the number of beats per minute -To know that exercise increases heart rate</p> <p><i>*This knowledge is revisited in our Year 6 Making connections unit: Are some sunglasses safer than others?</i></p> <p><b>Working Scientifically:</b></p> <p><b>Planning</b> - Suggesting which variables will be changed, measured and controlled -Making and explaining decisions about what observations to make and how long to make them for -Writing a method including detail about how to ensure control variables are kept the same</p>	<p>cast them as a result of light travelling in straight lines -To understand relationships between light sources, objects and shadows -To understand how and why the distance between the object and the screen affects the size of the shadow -To understand how the angle of a reflected ray is affected by the angle of the incoming ray, when reflected from a plane surface</p> <p><i>*This knowledge is revisited in our Year 6 Making connections unit: Are some sunglasses safer than others?</i></p> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b> - Raising questions throughout the enquiry process - Identifying testable questions</p>	<p>-*To know that animals and plants have adapted to suit their environment over many millions of years and that this process can be called evolution</p> <p><i>*This knowledge is revisited in our Year 6 Making connections unit: Are some sunglasses safer than others?</i></p> <p><b>Working Scientifically:</b></p> <p><b>Posing questions</b> - Selecting the most appropriate enquiry method to answer questions and give justification</p> <p><b>Observing (qualitative data)</b> - Using their senses to describe, in detail and with a broader range of scientific vocabulary, what they notice or what has changed</p> <p><b>Recording (tables)</b></p>	<p><i>*This knowledge is revisited in our Year 6 Making connections unit: Are some sunglasses safer than others?</i></p> <p><b>Working Scientifically:</b></p> <p><b>Planning</b> - Suggesting which variables will be changed, measured and controlled -Making and explaining decisions about what observations to make and how long to make them for -Writing a method including detail about how to ensure control variables are kept the same -Writing a method that considers reliability by planning repeated readings -Suggesting the most appropriate equipment to make observations and measurements and justifying their choices</p>	<p>changed, measured and controlled -Making and explaining decisions about what observations to make and how long to make them for -Writing a method including detail about how to ensure control variables are kept the same -Writing a method that considers reliability by planning repeated readings -Suggesting the most appropriate equipment to make observations and measurements and justifying their choices</p> <p><b>Predicting</b> - Making increasingly scientific predictions by: ● Using previous scientific knowledge and evidence to inform their predictions</p>
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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		<p>-Writing a method that considers reliability by planning repeated readings -Suggesting the most appropriate equipment to make observations and measurements and justifying their choices</p> <p><b>Predicting</b> - Making increasingly scientific predictions by:</p> <ul style="list-style-type: none"> <li>● Using previous scientific knowledge and evidence to inform their predictions</li> <li>● Using scientific language to describe a potential outcome or explain why they think something will happen</li> <li>● Making links between topics to evidence a prediction</li> </ul> <p><b>Observing (qualitative data)</b> - Using their senses to describe, in detail and with a broader range</p>	<p>- Selecting the most appropriate enquiry method to answer questions and give justification</p> <p><b>Planning</b> - Suggesting which variables will be changed, measured and controlled</p> <p><b>Predicting</b> - Making increasingly scientific predictions by:</p> <ul style="list-style-type: none"> <li>● Using previous scientific knowledge and evidence to inform their predictions</li> <li>● Using scientific language to describe a potential outcome or explain why they think something will happen</li> <li>● Making links between topics to evidence a prediction</li> </ul> <p><b>Measuring (quantitative data)</b> - Reading a wider variety of scales with unmarked</p>	<p>- Using tables with columns that allow for repeat readings - Calculating the mean average</p> <p><b>Grouping and classifying</b> - Grouping in a broader range of contexts</p> <p><b>Analysing and drawing conclusions</b> - Recognise the following across a broader range of contexts and in more complexity:</p> <ul style="list-style-type: none"> <li>● Naturally occurring patterns and relationships</li> <li>● Making comparisons to group and classify</li> <li>● Changes over time</li> <li>● Relevant secondary data</li> </ul> <p>-Writing a conclusion to summarise findings using increasingly complex scientific vocabulary -Suggesting with increasing independence how one</p>	<p><b>Predicting</b> - Making increasingly scientific predictions by:</p> <ul style="list-style-type: none"> <li>● Using previous scientific knowledge and evidence to inform their predictions</li> <li>● Using scientific language to describe a potential outcome or explain why they think something will happen</li> <li>● Making links between topics to evidence a prediction</li> </ul> <p><b>Observing (qualitative data)</b> - Using their senses to describe, in detail and with a broader range of scientific vocabulary, what they notice or what has changed</p> <p><b>Measuring (quantitative data)</b> - Using standard units to measure and compare with increasing precision (decimals) -Reading a wider variety of scales with unmarked</p>	<ul style="list-style-type: none"> <li>● Using scientific language to describe a potential outcome or explain why they think something will happen</li> <li>● Making links between topics to evidence a prediction</li> </ul> <p><b>Observing (qualitative data)</b> - Using their senses to describe, in detail and with a broader range of scientific vocabulary, what they notice or what has changed</p> <p><b>Measuring (quantitative data)</b> - Using standard units to measure and compare with increasing precision (decimals) -Reading a wider variety of scales with unmarked intervals between numbers</p> <p><b>Researching</b></p>
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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		<p>of scientific vocabulary, what they notice or what has changed</p> <p><b>Measuring (quantitative data)</b></p> <ul style="list-style-type: none"> <li>- Using standard units to measure and compare with increasing precision (decimals)</li> <li>- Reading a wider variety of scales with unmarked intervals between numbers</li> </ul> <p><b>Researching</b></p> <ul style="list-style-type: none"> <li>- Gathering answers to open-ended questions from a variety of sources</li> </ul> <p><b>Recording (tables)</b></p> <ul style="list-style-type: none"> <li>- Using tables with columns that allow for repeat readings</li> <li>- Suggesting headings to tables, including units</li> <li>- Calculating the mean average</li> </ul>	<p>intervals between numbers</p> <p><b>Recording (diagrams)</b></p> <ul style="list-style-type: none"> <li>- Drawing scientific diagrams by: <ul style="list-style-type: none"> <li>● Using a wider range of standard symbols</li> <li>● Drawing with increasing accuracy</li> <li>● Labelling with a broader range of scientific vocabulary</li> <li>● Annotating diagrams to explain concepts and convey opinions</li> </ul> </li> </ul> <p><b>Recording (tables)</b></p> <ul style="list-style-type: none"> <li>- Using tables with columns that allow for repeat readings</li> <li>- Calculating the mean average</li> </ul> <p><b>Graphing</b></p> <ul style="list-style-type: none"> <li>- Representing data by using line graphs and scatter graphs</li> <li>- Plotting points with greater accuracy</li> </ul> <p><b>Analysing and drawing conclusions</b></p>	<p>variable may have affected another</p> <ul style="list-style-type: none"> <li>- Quoting relevant data as evidence of relationships</li> <li>- Identifying anomalies in repeat data and excluding results where appropriate</li> <li>- Comparing individual, class and/or model data to the prediction and recognising when they do not match</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>- Identifying steps in the method that need changing and suggesting improvements</li> <li>- Identifying which variables were difficult to control and suggesting how to better control them</li> <li>- Commenting on the degree of trust by also reflecting on: <ul style="list-style-type: none"> <li>● Accuracy (human error with equipment)</li> <li>● Reliability (repeating results)</li> </ul> </li> </ul>	<p>intervals between numbers</p> <p><b>Recording (diagrams)</b></p> <ul style="list-style-type: none"> <li>- Drawing scientific diagrams by: <ul style="list-style-type: none"> <li>● Using a wider range of standard symbols</li> <li>● Drawing with increasing accuracy</li> <li>● Labelling with a broader range of scientific vocabulary</li> <li>● Annotating diagrams to explain concepts and convey opinions</li> </ul> </li> </ul> <p><b>Recording (tables)</b></p> <ul style="list-style-type: none"> <li>- Using tables with columns that allow for repeat readings</li> <li>- Suggesting headings to tables, including units</li> <li>- Designing results tables with increasing independence with consideration of variables where applicable</li> <li>- Calculating the mean average</li> </ul>	<ul style="list-style-type: none"> <li>- Gathering answers to open-ended questions from a variety of sources</li> </ul> <p><b>Recording (diagrams)</b></p> <ul style="list-style-type: none"> <li>- Drawing scientific diagrams by: <ul style="list-style-type: none"> <li>● Using a wider range of standard symbols</li> <li>● Drawing with increasing accuracy</li> <li>● Labelling with a broader range of scientific vocabulary</li> <li>● Annotating diagrams to explain concepts and convey opinions</li> </ul> </li> </ul> <p><b>Recording (tables)</b></p> <ul style="list-style-type: none"> <li>- Using tables with columns that allow for repeat readings</li> <li>- Suggesting headings to tables, including units</li> <li>- Designing results tables with increasing independence with consideration of variables where applicable</li> </ul>
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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		<p><b>Graphing</b></p> <ul style="list-style-type: none"> <li>- Representing data by using line graphs and scatter graphs</li> <li>- Plotting points with greater accuracy</li> <li>-Reading the value of plotted points with greater accuracy</li> </ul> <p><b>Analysing and drawing conclusions</b></p> <ul style="list-style-type: none"> <li>- Recognise the following across a broader range of contexts and in more complexity:             <ul style="list-style-type: none"> <li>● Naturally occurring patterns and relationships</li> <li>● Making comparisons to group and classify</li> <li>● Changes over time</li> <li>● Relevant secondary data</li> </ul> </li> <li>-Writing a conclusion to summarise findings using increasingly complex scientific vocabulary</li> <li>-Suggesting with increasing independence how one variable may have affected another</li> </ul>	<ul style="list-style-type: none"> <li>- Recognise the following across a broader range of contexts and in more complexity:             <ul style="list-style-type: none"> <li>● Naturally occurring patterns and relationships</li> <li>● Making comparisons to group and classify</li> <li>● Changes over time</li> <li>● Relevant secondary data</li> </ul> </li> <li>-Writing a conclusion to summarise findings using increasingly complex scientific vocabulary</li> <li>-Suggesting with increasing independence how one variable may have affected another</li> <li>-Quoting relevant data as evidence of relationships</li> <li>-Identifying anomalies in repeat data and excluding results where appropriate</li> <li>-Comparing individual, class and/or model data to the prediction and recognising when they do not match</li> </ul>	<ul style="list-style-type: none"> <li>● Sources of information (e.g. websites, books)</li> <li>-Deciding what data to collect to further test direct relationships</li> </ul>	<p><b>Analysing and drawing conclusions</b></p> <ul style="list-style-type: none"> <li>- Recognise the following across a broader range of contexts and in more complexity:             <ul style="list-style-type: none"> <li>● Naturally occurring patterns and relationships</li> <li>● Making comparisons to group and classify</li> <li>● Changes over time</li> <li>● Relevant secondary data</li> </ul> </li> <li>-Writing a conclusion to summarise findings using increasingly complex scientific vocabulary</li> <li>-Suggesting with increasing independence how one variable may have affected another</li> <li>-Quoting relevant data as evidence of relationships</li> <li>-Identifying anomalies in repeat data and excluding results where appropriate</li> </ul>	<ul style="list-style-type: none"> <li>- Calculating the mean average</li> </ul> <p><b>Grouping and classifying</b></p> <ul style="list-style-type: none"> <li>- Grouping in a broader range of contexts</li> </ul> <p><b>Graphing</b></p> <ul style="list-style-type: none"> <li>- Representing data by using line graphs and scatter graphs</li> <li>- Plotting points with greater accuracy</li> <li>-Reading the value of plotted points with greater accuracy</li> </ul> <p><b>Analysing and drawing conclusions</b></p> <ul style="list-style-type: none"> <li>- Recognise the following across a broader range of contexts and in more complexity:             <ul style="list-style-type: none"> <li>● Naturally occurring patterns and relationships</li> <li>● Making comparisons to group and classify</li> <li>● Changes over time</li> </ul> </li> </ul>
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



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		<p>one variable may have affected another          -Quoting relevant data as evidence of relationships          -Identifying anomalies in repeat data and excluding results where appropriate          -Comparing individual, class and/or model data to the prediction and recognising when they do not match          -Using identified patterns to predict new values or trends</p> <p><b>Evaluating</b>          -Commenting on the degree of trust by also reflecting on:</p> <ul style="list-style-type: none"> <li>● Accuracy (human error with equipment)</li> <li>● Reliability (repeating results)</li> <li>● Sources of information (e.g. websites, books)</li> </ul>	<p>-Using identified patterns to predict new values or trends</p> <p><b>Evaluating</b>          - Identifying steps in the method that need changing and suggesting improvements          -Identifying which variables were difficult to control and suggesting how to better control them          -Commenting on the degree of trust by also reflecting on:</p> <ul style="list-style-type: none"> <li>● Accuracy (human error with equipment)</li> <li>● Reliability (repeating results)</li> <li>● Sources of information (e.g. websites, books)</li> </ul> <p>-Deciding what data to collect to further test direct relationships</p>		<p>-Comparing individual, class and/or model data to the prediction and recognising when they do not match          -Using identified patterns to predict new values or trends</p> <p><b>Evaluating</b>          - Identifying steps in the method that need changing and suggesting improvements          -Identifying which variables were difficult to control and suggesting how to better control them          -Commenting on the degree of trust by also reflecting on:</p> <ul style="list-style-type: none"> <li>● Accuracy (human error with equipment)</li> <li>● Reliability (repeating results)</li> <li>● Sources of information (e.g. websites, books)</li> </ul>	<ul style="list-style-type: none"> <li>● Relevant secondary data</li> </ul> <p>-Writing a conclusion to summarise findings using increasingly complex scientific vocabulary          -Suggesting with increasing independence how one variable may have affected another          -Quoting relevant data as evidence of relationships          -Identifying anomalies in repeat data and excluding results where appropriate          -Comparing individual, class and/or model data to the prediction and recognising when they do not match          -Using identified patterns to predict new values or trends</p> <p><b>Evaluating</b>          - Identifying steps in the method that need changing and</p>
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025

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						<p>suggesting improvements</p> <ul style="list-style-type: none"><li>-Identifying which variables were difficult to control and suggesting how to better control them</li><li>-Commenting on the degree of trust by also reflecting on:<ul style="list-style-type: none"><li>● Accuracy (human error with equipment)</li><li>● Reliability (repeating results)</li></ul></li><li>- Deciding what data to collect to further test direct relationships</li></ul>
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# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025

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	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
<b>EYFS</b>		Animal adventures	I am a scientist!	Our beautiful planet	Changing seasons	
<b>Y1</b>	Making connections – Investigating science through stories	Comparing animals	Everyday materials	Introduction to plants	Seasonal changes	Sensitive bodies
<b>Y2</b>	Making connections – Investigating science through stories	Microhabitats	Use of everyday materials	Plant growth	Habitats	Life cycles and health
<b>Y3</b>	Making connections – Investigating science through stories	Forces and magnets	Light and shadows	Plants	Rocks and soil	Animals, movement and nutrition



# St Nicholas of Tolentine RC Primary School

## Science Curriculum Overview 2024-2025



*A Curriculum that celebrates the Global Diversity of our school community*

<b>Y4</b>	Digestion and food	Sound and vibration	States of matter	Electricity and circuits	Making connections – How does the flow of liquids compare?	Classification and changing habitats
<b>Y5</b>	Mixtures and separation	Earth and space	Unbalanced forces	Human timeline	Properties and changes of materials	Life cycles and reproduction
				Making connections - Does the size of an asteroid affect its impact strength?		
<b>Y6</b>	Classifying big and small	Circulation and health	Light and reflection	Evolution and inheritance	Circuits, batteries and switches	Making connections – Are some sunglasses safer than others