



St. Paul's Catholic Primary School
Science– Cycle A
Progression of Skills and Knowledge

Year Group	<i>Autumn</i>		
	Unit	Skills	Knowledge
1 & 2	The Environment	Asking questions and carrying out fair and comparative tests Observing and measuring changes Identifying, classifying, recording and presenting data Drawing conclusions, noticing patterns and presenting findings	Know: <ol style="list-style-type: none"> 1. ask simple questions and recognise that they can be answered in different ways 2. observe closely, using simple equipment 3. perform simple tests 4. identify and classify 5. use their observations and ideas to suggest answers to questions 6. gather and recording data to help in answering questions
	Everyday Materials	Observing and measuring changes	<ol style="list-style-type: none"> 1. observe closely, using simple equipment 2. perform simple tests 3. use their observations and ideas to suggest answers to questions



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		Asking questions and carrying out fair and comparative tests Identifying, classifying, recording and presenting data	
Spring			
1 & 2			
	Seasonal Change	Identifying, classifying, recording and presenting data.	1. gather and record data to help in answering questions
	Plants	Asking questions and carrying out fair and comparative tests Observing and measuring changes	<ol style="list-style-type: none"> 1. ask simple questions and recognise that they can be answered in different ways 2. observe closely, using simple equipment 3. identify and classify 4. use their observations and ideas to suggest answers to questions 5. gather and record data to help in answering questions 6. identify and name a variety of common wild and garden plants, including deciduous and evergreen trees 2



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		Identifying, classifying, recording and presenting data	7. identify and describe the basic structure of a variety of common flowering plants, including trees
Summer			
1 & 2			
	Animals Including Humans	Asking questions and carrying out fair and comparative tests Observing and measuring changes Identifying, classifying, recording and presenting data	<ol style="list-style-type: none"> 1. ask simple questions and recognise that they can be answered in different ways 2. perform simple tests 3. identify and classify 4. gather and record data to help in answering questions 5. identify and name a variety of common animals including, fish, amphibians, reptiles, birds and mammals 6. identify and name a variety of common animals that are carnivores, herbivores and omnivores
	Scientists and Inventors	Asking questions and carrying out fair and comparative tests Observing and measuring changes Identifying, classifying,	<ol style="list-style-type: none"> 1. ask simple questions and recognise that they can be answered in different ways 2. perform simple tests 3. identify and classify 4. use their observations and ideas to suggest answers to questions 5. gather and record data to help in answering questions 6. identify and name a variety of common wild and garden plants, including deciduous and evergreen trees



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		<p>recording and presenting data</p> <p>Drawing conclusions, noticing patterns and presenting findings</p>	
Year Group	Autumn		
3 & 4	Forces and magnets	<p>Asking Questions and Carrying Out Fair and Comparative Tests</p> <p>Using Scientific Evidence and Secondary Sources of Information</p> <p>Drawing Conclusions, Noticing Patterns and Presenting</p>	<ol style="list-style-type: none"> 1. collect data from their own observations and measurements; 2. present data in a variety of ways to help in answering questions; 3. use, read and spell scientific vocabulary correctly and with confidence, using their growing word reading and spelling knowledge; record findings using scientific language, drawings, labelled diagrams, keys, bar charts and tables. Asking relevant questions and using different types of scientific enquiries to answer them. 4. start to raise their own relevant questions about the world around them in response to a range of scientific experiences; 5. start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions. <ol style="list-style-type: none"> 1. make links between their own science results and other scientific evidence; 2. use straightforward scientific evidence to answer questions or support their



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		<p>Using Scientific Evidence and Secondary Sources of Information</p>	<p>9. make, how long to make them for and the type of simple equipment that might be used; set up and carry out simple comparative and fair tests.</p> <ol style="list-style-type: none">1. Identifying differences, similarities or changes related to simple scientific ideas and processes.2. Using straightforward scientific evidence to answer questions or to support their findings.3. Children can: make links between their own science results and other scientific evidence;4. use straightforward scientific evidence to answer questions or support their findings;5. identify similarities, differences, patterns and changes relating to simple scientific ideas and processes



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<i>Spring</i>		
Rocks	<p>Asking Questions and Carrying Out Fair and Comparative Tests.</p> <p>Drawing Conclusions, Noticing Patterns and Presenting Findings</p> <p>Observing and Measuring Changes</p>	<ol style="list-style-type: none"> 1. Asking relevant questions and using different types of scientific enquiries to answer them. 2. Start to raise their own relevant questions about the world around them in response to a range of scientific experiences. 3. Start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions. <ol style="list-style-type: none"> 1. Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. <ol style="list-style-type: none"> 1. Making systematic and careful observations. 2. Ask their own questions about what they observe.
Scientists and Inventors	<p>Asking Questions and Carrying Out Fair and</p>	<ol style="list-style-type: none"> 1. Ask relevant questions and using different types of scientific enquiries to answer them 2. Make systematic and careful observations and, where appropriate, taking



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		<p>Comparative Tests.</p> <p>Observing and Measuring Changes</p> <p>Identifying, Classifying, Recording and Presenting Data</p> <p>Using Scientific Evidence and Secondary Sources of Information</p>	<p>accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <ol style="list-style-type: none">3. Gather, record, classify and present data in a variety of ways to help in answering questions4. Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions5. Identify differences, similarities or changes related to simple scientific ideas and processes
	<p><i>Summer</i></p>		



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	<p>Animals Including Humans</p>	<p>Asking Questions and Carrying Out Fair and Comparative Tests</p> <p>Identifying, Classifying, Recording and Presenting Data</p> <p>Using Scientific Evidence and Secondary Sources of Information</p> <p>Scientific Knowledge</p>	<p>set up simple practical enquiries, comparative and fair tests</p> <p>record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p> <p>identify differences, similarities or changes related to simple scientific ideas and processes</p> <p>identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat</p> <p>identify that humans and some other animals have skeletons and muscles for support, protection and movement</p> <p>compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p>
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	Light	<p>Asking Questions and Carrying Out Fair and Comparative Tests</p> <p>Observing and Measuring Changes</p> <p>Drawing Conclusions, Noticing Patterns and Presenting Findings</p> <p>Using Scientific Evidence and Secondary Sources of Information</p>	<p>Ask relevant questions and use different types of scientific enquiries to answer them.</p> <p>Make systematic and careful observations</p> <p>Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>Gather, record, classify and present data in a variety of ways to help answer questions.</p> <p>Record findings using simple scientific language, drawings and labelled diagrams.</p> <p>Identify differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Use straightforward scientific evidence to answer questions or to support findings.</p>
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Year Group	<i>Autumn</i>		
5 & 6	Properties and Changes of materials (Y5)	<p style="color: red;">Asking Questions and Carrying Out Fair and Comparative Tests</p> <p style="color: blue;">Observing and Measuring Changes</p> <p>Identifying, Classifying, Recording and Presenting Data</p> <p style="color: green;">Drawing Conclusions, Noticing Patterns and Presenting Findings</p>	<p>Children can:</p> <ul style="list-style-type: none"> ● plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary ● take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate ● record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs ● report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations ● compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency,



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			<p>conductivity (electrical and thermal), and response to magnets</p> <ul style="list-style-type: none"> ● know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution ● use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating ● give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic ● demonstrate that dissolving, mixing and changes of state are reversible changes ● explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda
	<p>Scientists and Inventors (Y5)</p>	<p>Asking Questions and Carrying Out Fair and Comparative Tests</p> <p>Observing and Measuring Changes</p> <p>Identifying, Classifying, Recording and Presenting Data</p> <p>Drawing Conclusions, Noticing</p>	<p>Children can:</p> <ul style="list-style-type: none"> ● plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary ● take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate ● use test results to make predictions to set up further comparative and fair tests ● report and present findings from enquiries, including conclusions,



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	<p>Patterns and Presenting Findings</p> <p>Using Scientific Evidence and Secondary Sources of Information</p>	<p>causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations</p> <ul style="list-style-type: none"> ● identify scientific evidence that has been used to support or refute ideas or arguments ● describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird ● compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets ● use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating ● describe the movement of the Earth, and other planets, relative to the Sun in the solar system ● find out about the work of naturalists and animal behaviourists ● describe how scientific ideas have changed over time
<i>Spring</i>		
Forces (Y5)	<p>Asking Questions and Carrying Out Fair and Comparative Tests</p> <p>Observing and Measuring</p>	<p>Children can:</p> <ul style="list-style-type: none"> ● plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary ● take measurements, using a range of scientific equipment, with



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	<p>Changes Identifying, Classifying, Recording and Presenting Data</p> <p>Drawing Conclusions, Noticing Patterns and Presenting Findings</p> <p>Using Scientific Evidence and Secondary Sources of Information</p>	<p>increasing accuracy and precision, taking repeat readings when appropriate</p> <ul style="list-style-type: none"> ● record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs ● report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations ● identify scientific evidence that has been used to support or refute ideas or arguments ● explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object ● identify the effects of air resistance, water resistance and friction, that act between moving surfaces ● recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect
Earth and Space (Y5)	<p>Drawing Conclusions, Noticing Patterns and Presenting Findings</p> <p>Using Scientific Evidence and Secondary Sources of Information</p>	<p>Children can:</p> <ul style="list-style-type: none"> ● report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations ● identify scientific evidence that has been used to support or refute ideas or arguments



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			<ul style="list-style-type: none"> ● describe the movement of the Earth, and other planets, relative to the Sun in the solar system ● describe the movement of the Moon relative to the Earth ● describe the Sun, Earth and Moon as approximately spherical bodies ● use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky
<i>Summer</i>			
Living things and their habitats (Y5)	Using Scientific Evidence and Secondary Sources of Information	Children can:	<ul style="list-style-type: none"> ● describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird ● describe the life process of reproduction in some plants and animals
Animals including humans (Y5)	Identifying, Classifying, Recording and Presenting Data Drawing Conclusions, Noticing Patterns and Presenting Findings Using Scientific Evidence and Secondary Sources of	Children can:	<ul style="list-style-type: none"> ● record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs ● report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations ● describe the changes as humans develop to old age



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		Information	