



St Barnabas
Co/E Primary School

Skills Progression

Subject area: Science

Subject Intent:

Our intention for Science is so children enjoy their learning and are engaged and inspired. Our approach to Science is based on exploration and is designed to ensure the children undertake as much practical work as possible developing their enquiry skills and curiosity.

EYFS Development Matters

Characteristics of effective teaching and learning

Playing and exploring – children investigate and experience things, and ‘have a go’

Active learning – children concentrate and keep on trying if they encounter difficulties, and enjoy achievements

Creating and thinking critically – children have and develop their own ideas, make links between ideas, and develop strategies for doing things

Early Learning Goals: Understanding The World

Children at the expected level of development will:

Explore the natural world around them, making observations and drawing pictures of animals and plants.

Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.

Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Skill	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Asking questions	<p>Three and Four year olds will:</p> <p>Learn and use new vocabulary and in different contexts.</p> <p>Explore the natural world around them.</p> <p>Begin to understand the need to respect and care for the natural environment and all living things.</p> <p>Talk about the differences between materials and changes they notice.</p>	<p>With prompting ask simple questions that can be tested.</p> <p>With support ask people questions and use simple secondary sources to find answers.</p>	<p>Ask simple questions using scientific vocabulary from the National Curriculum that can be tested.</p> <p>Ask people questions and use simple secondary sources to find answers.</p>	<p>Ask relevant testable questions using appropriate scientific vocabulary from the National Curriculum.</p> <p>Begin to recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations.</p>	<p>Ask and develop relevant, testable questions using appropriate scientific language from the National Curriculum.</p> <p>Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations</p>	<p>Ask relevant questions and use different types of scientific enquiries to answer them.</p> <p>Recognise which secondary sources will be most useful to research my ideas and begin to separate opinion from fact.</p>	<p>Use science experiences to explore ideas and raise different kinds of questions.</p> <p>Confidently recognise which secondary sources will be most useful to research my ideas and begin to separate opinion from fact.</p>

	<p>Children in Reception will:</p> <p>Describe what they see, hear and feel whilst outside.</p>						
Skill	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Planning and setting up different types of enquiries</p>	<p>Three and 4 year olds will:</p> <p>Explore how things work.</p> <p>Talk about what they see using a wide vocabulary.</p> <p>Plant seeds and care for growing plants.</p> <p>Explore and talk about different forces they can feel.</p> <p>Talk about the differences between materials and changes they notice.</p>	<p>Begin to recognise different ways in which can scientific questions can be answered.</p>	<p>Recognise different ways in which scientific questions can be answered by a range of investigations.</p>	<p>Make own decisions about the most appropriate type of scientific enquiry needed to answer questions.</p> <p>Begin to recognise when a simple fair test is necessary and help to decide how to set it up.</p>	<p>With more confidence make my own decisions about the most appropriate type of scientific enquiry needed to answer questions.</p> <p>Recognise when a simple fair test is necessary and help to decide how to set it up.</p>	<p>Select and plan the most appropriate type of scientific enquiry to use to answer scientific questions.</p> <p>Recognise when to set up comparative and fair tests and explain which variables need to be controlled and why.</p>	<p>Confidently select and plan the most appropriate type of scientific enquiry to use to answer scientific questions.</p> <p>Recognise when to set up comparative and fair tests and explain which variables need to be controlled and why.</p> <p>Confidently use a range of scientific activities to answer questions. I can talk about how scientific ideas have developed over time.</p>
Skill	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Performing tests</p>	<p>Three and Four year olds will:</p> <p>Use all their senses in hands on exploration of natural materials.</p> <p>Explore collections of materials with similar</p>	<p>With support carry out simple tests with different types of scientific enquiry.</p>	<p>Carry out simple tests with different types of scientific enquiry.</p>	<p>With support set up simple practical enquiries, comparative and fair tests.</p>	<p>Set up simple practical enquiries, comparative and fair tests.</p>	<p>Set up a range of practical enquiries, comparative and fair tests and explain which variables need to be controlled and why.</p>	<p>Set up comparative fair tests with confidence and explain which variables need to be controlled and why using correct scientific vocabulary.</p>

	and /or different properties.						
Skill	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Using equipment	<p>Three and Four year olds will be learning to:</p> <p>Explore how things work.</p> <p>Use simple tools and equipment (eg lenses, scissors, simple measuring equipment)</p>	Use simple measurements and equipment (e.g hand lenses, egg timers to gather data.	Use simple equipment to observe closely and to measure changes over time.	Begin to take accurate measurements using standard units. Learn how to use a range of new equipment such as thermometers and data loggers appropriately.	Take accurate measurements using standard units. Learn how to use a range of new equipment such as data loggers and thermometers appropriately.	Choose the most appropriate equipment to make measurements. Explain how to use it accurately using scientific vocabulary. Take repeat measurements where appropriate.	Choose the most appropriate equipment to make measurements with increasing precision. Explain how to use it accurately using correct scientific vocabulary. Take repeat measurements where appropriate.
Skill	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Observing and Measuring	<p>Three and Four year olds will be learning to:</p> <p>Use all their senses in hands on exploration of natural materials.</p> <p>Understand the key features of the life cycle of a plant and animal.</p> <p>Talk about what they see using a wide vocabulary.</p>	Begin to observe closely using simple equipment with help, observe changes over time.	Observe closely using simple equipment with help, observe changes over time.	Begin to make systematic and careful observations. Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used.	Make systematic and careful observations. Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used.	Make a decision about what observations to make, what measurements to use and how long to make them for.	Confidently make a decision about what observations to make, what measurements to use and how long to make them for.
Skill	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

<p>Identifying and classifying</p>	<p>Three and Four year olds will be learning to:</p> <p>Talk about what they see using a wide vocabulary.</p> <p>Talk about the differences between materials and changes they notice.</p> <p>ELG:</p> <p>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.</p>	<p>With prompting use simple features to compare objects, materials and living things and, with help decide how to sort and group them.</p>	<p>Use simple features to compare objects, materials and living things and, with help decide how to sort and group them.</p>	<p>Begin to use criteria for grouping, sorting and classifying and use simple keys using scientific language</p>	<p>Use criteria for grouping, sorting and classifying and use simple keys using scientific language.</p>	<p>Confidently use criteria for grouping, sorting and classifying and use simple keys using appropriate scientific language.</p>	<p>Use and develop keys and other information records to identify, classify and describe living things and materials. Identify patterns that might be found in the natural environment.</p>
<p>Skill</p>	<p>EYFS</p>	<p>Year 1</p>	<p>Year 2</p>	<p>Year 3</p>	<p>Year 4</p>	<p>Year 5</p>	<p>Year 6</p>
<p>Gathering and recording data</p>	<p>Three and Four year olds will be learning to:</p> <p>Talk about what they see using a wide vocabulary.</p> <p>Children in Reception will be learning to:</p>	<p>Record simple data.</p> <p>With guidance, begin to notice patterns and relationships.</p>	<p>Collect and record simple data relevant to the answering of questions.</p>	<p>Collect and record data from my own observations and measurements in a variety of ways: notes, bar charts and tables, standard units, drawings, labelled diagrams, keys and help to make decisions about how to analyse this data.</p>	<p>Collect and record data from my own observation and measurements in a variety of ways: notes, bar charts and tables, standard units, drawings, labelled diagrams, keys and graphs to help make decisions about how to analyse this data.</p>	<p>Begin decide how to record data and results of increasing complexity from a choice of familiar approaches: scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p>	<p>More confidently decide how to record data and results of increasing complexity from a choice of familiar approaches: scientific diagrams and labels, classification keys, tables, scatter</p>

	Describe what they see, hear and feel whilst outside. ELG Explore the natural world around them, making observations and drawing pictures of animals and plants.		Notice patterns and relationships.	Begin to look for naturally occurring patterns and relationships and begin decide what data to collect to identify them.	Look for naturally occurring patterns and relationships and decide what data to collect to identify them	Look for different causal relationships in their data and begin to identify evidence that refutes or supports an idea.	graphs, bar and line graphs. Look for different causal relationships in their data and identify evidence that refutes or supports an idea.
Skill	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Reporting, presenting and communicating data/ findings	<p>Three and Four year olds will be learning to:</p> <p>Learn and use new vocabulary and in different contexts.</p> <p>Talk about what they see using a wide vocabulary.</p> <p>ELG:</p> <p>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>	<p>With help record and communicate my findings in a range of ways and begin to use simple scientific language.</p> <p>Begin to use observations and ideas to suggest answers to questions.</p> <p>Talk about what I have found out and how I found it out.</p>	<p>Record and communicate my findings in a range of ways and begin to use simple scientific language.</p> <p>Use observations and ideas to suggest answers to questions.</p>	<p>Use relevant simple scientific language to discuss my ideas and communicate my findings in ways that are appropriate for different audiences, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>With support, identify new questions arising from the data, making predictions for new values within or beyond the data they have collected and finding ways of improving what they all have already done.</p>	<p>Use relevant simple scientific language to discuss my ideas and communicate my findings in ways that are appropriate for different audiences, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Identify new questions arising from the data, making predictions for new values within or beyond the data they have collected and finding ways of improving what they all have already done.</p> <p>Look for changes, patterns, similarities and differences in my</p>	<p>Confidently use relevant scientific language and illustrations to discuss, communicate and justify a scientific idea. Use oral and written forms such as displays and other presentations to report conclusions, causal relationships and explanations of degree of trust in results.</p> <p>Use results to make predictions and identify when further observations, comparative and fair tests might be needed</p> <p>Confidently look for changes, patterns, similarities and differences in my data in order to draw simple conclusions</p>	<p>Confidently use relevant scientific language and illustrations to discuss, communicate and justify a scientific idea. Use oral and written forms such as displays and other presentations to report conclusions, causal relationships and explanations of degree of trust in results.</p> <p>Confidently use my results to make predictions and identify when further observations, comparative and fair tests might be needed.</p> <p>Identify scientific evidence that has been used to support or refute ideas or arguments.</p>

				With support look for changes, patterns, similarities and differences in my data in order to draw simple conclusions and answer questions	data in order to draw simple conclusions and answer questions	and answer questions	
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