

**Rockmount Primary School  
Skills Progression Document  
Scientific Enquiry**

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 6</b>
<b>Questioning, Enquiring and Planning</b>	<ul style="list-style-type: none"> <li>• Ask simple questions about the world around us</li> <li>• Begin to recognise that questions can be answered in different ways (including observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative tests, finding things out from secondary sources)</li> </ul>	<ul style="list-style-type: none"> <li>• Ask questions about the world around us</li> <li>• Recognise that they can be answered in different ways (including - observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative tests, finding things out from secondary sources)</li> </ul>	<ul style="list-style-type: none"> <li>• Ask some relevant questions and use different types of scientific enquiry to answer them</li> <li>• Begin to explore everyday phenomena and the relationships between living things and familiar environments</li> <li>• Begin to develop their ideas about functions, relationships and interactions.</li> <li>• Begin to raise their own questions about the world around them</li> </ul>	<ul style="list-style-type: none"> <li>• Ask relevant questions and use different types of scientific enquiry to answer them.</li> <li>• Explore everyday phenomena and the relationships between living things and familiar environments.</li> <li>• Begin to develop their ideas about functions, relationships and interactions.</li> <li>• Raise their own questions about the world around them.</li> <li>• Make some decisions about which types of enquiry will be the best way of answering questions</li> </ul>	<ul style="list-style-type: none"> <li>• Begin to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</li> <li>• Begin to explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically.</li> <li>• Begin to recognise some more abstract ideas and begin to recognise how these ideas help them to understand how the world operates.</li> <li>• Begin to recognise scientific ideas change and develop over time.</li> <li>• Begin to select the most appropriate ways to answer science questions using different types of scientific enquiry</li> </ul>	<ul style="list-style-type: none"> <li>• Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</li> <li>• Explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically</li> <li>• Begin to recognise more abstract ideas and begin to recognise how these ideas help them to understand how the world operates</li> <li>• Begin to recognise scientific ideas change and develop over time</li> <li>• Select the most appropriate ways to answer science questions using different types of scientific enquiry (including observing changes over different periods of time, noticing patterns, grouping and classifying, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information)</li> </ul>
<b>Investigating</b>	<ul style="list-style-type: none"> <li>• Perform simple tests with support</li> <li>• To begin to discuss ideas about how to find things out</li> <li>• To begin to say what happened in an investigation</li> </ul>	<ul style="list-style-type: none"> <li>• Perform simple tests</li> <li>• To discuss ideas about how to find things out</li> <li>• To say what happened in an investigation</li> </ul>	<ul style="list-style-type: none"> <li>• Set up some simple practical enquiries, comparative and fair tests</li> <li>• Begin to recognise when a simple fair test is necessary and help to decide how to set it up</li> <li>• Begin to think of more than one variable factor</li> </ul>	<ul style="list-style-type: none"> <li>• Set up simple practical enquiries, comparative and fair tests</li> <li>• Recognise when a simple fair test is necessary and help to decide how to set it up</li> <li>• Think of more than one variable factor</li> </ul>	<ul style="list-style-type: none"> <li>• Begin to use test results to make predictions to set up further comparative and fair tests</li> <li>• Begin to recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why</li> <li>• Begin to suggest improvements to the method and give reasons</li> <li>• Begin to decide when it is appropriate to do a fair test</li> </ul>	<ul style="list-style-type: none"> <li>• Use test results to make predictions to set up further comparative and fair tests</li> <li>• Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why</li> <li>• Suggest improvements to a method and give reasons</li> <li>• Decide when it is appropriate to do a fair test</li> </ul>

<b>Observing and Measuring</b>		<ul style="list-style-type: none"> <li>• Observe closely, using simple equipment.</li> <li>• Use observations and ideas to suggest answers to questions.</li> <li>• Begin to observe changes over time and, with guidance, begin to notice patterns and relationships</li> <li>• Say what I am looking for and what I am measuring.</li> <li>• To know how to use simple equipment safely. Use simple measurements and equipment with increasing independence (eg hand lenses and egg timers) Begin to progress from non-standard units, reading mm, cm, m, ml, l, °C</li> </ul>	<ul style="list-style-type: none"> <li>• Begin to make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment</li> <li>• Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. 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</li> <li>• Learn to use some new equipment appropriately (eg data loggers)</li> <li>• Begin to see a pattern in results</li> <li>• Begin to choose from a selection of equipment</li> <li>• Begin to observe and measure accurately using standard units including time in minutes and seconds</li> </ul>	<ul style="list-style-type: none"> <li>• Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</li> <li>• Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them</li> <li>• 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</li> <li>• Learn to use new equipment appropriately (eg data loggers)</li> <li>• See a pattern in results</li> <li>• Choose from a selection of equipment</li> <li>• Observe and measure accurately using standard units including time in minutes and seconds</li> </ul>	<ul style="list-style-type: none"> <li>• Begin to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate</li> <li>• Begin to identify patterns that might be found in the natural environment</li> <li>• Begin to make decisions about what observations to make, what measurements to use and how long to make them for and whether to repeat them</li> <li>• Choose the most appropriate equipment and explain how to use it accurately</li> <li>• Begin to interpret data and find patterns</li> <li>• Select equipment independently</li> <li>• Make a set of observations and say what the interval and range are</li> <li>• Begin to take accurate and precise measurements – N, g, kg, mm, cm, mins, seconds, cm<sup>2</sup>V, km/h, m per sec, m/ sec</li> </ul>	<ul style="list-style-type: none"> <li>• Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate</li> <li>• Identify patterns that might be found in the natural environment</li> <li>• Make their own decisions about what observations to make, what measurements to use and how long to make them for and whether to repeat them</li> <li>• Choose the most appropriate equipment and explain how to use it accurately</li> <li>• Interpret data and find patterns</li> <li>• Select equipment independently</li> <li>• Make a set of observations and say what the interval and range are</li> <li>• Take accurate and precise measurements – N, g, kg, mm, cm, mins, seconds, cm<sup>2</sup>V, km/h, m per sec, m/ sec</li> </ul>
<b>Recording</b>	<ul style="list-style-type: none"> <li>• Gather and record data with some adult support, to help in answering questions</li> <li>• Begin to record simple data</li> <li>• Begin to record and communicate findings in a range of ways</li> <li>• Show results in a simple table that has been provided</li> </ul>	<ul style="list-style-type: none"> <li>• Gather and record data to help in answering questions</li> <li>• Record simple data</li> <li>• Record and communicate findings in a range of ways</li> <li>• Show results in a table that has been provided</li> </ul>	<ul style="list-style-type: none"> <li>• Gather, record, and begin to classify and present data in a variety of ways to help in answering questions</li> <li>• Begin to record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables</li> <li>• Begin to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</li> <li>• Begin to use notes, simple tables and standard units and help to decide how to record and analyse their data</li> <li>• Begin to record results in tables and bar charts</li> </ul>	<ul style="list-style-type: none"> <li>• Gather, record, classify and present data in a variety of ways to help in answering questions</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables</li> <li>• Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</li> <li>• Use notes, simple tables and standard units and help to decide how to record and analyse their data. Can record results in tables and bar charts</li> </ul>	<ul style="list-style-type: none"> <li>• Begin to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs</li> <li>• Begin to report and present findings from enquiries</li> <li>• Begin to decide how to record data from a choice of familiar approaches</li> <li>• Begin to choose how best to present data</li> </ul>	<ul style="list-style-type: none"> <li>• Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs</li> <li>• Report and present findings from enquiries</li> <li>• Decide how to record data from a choice of familiar approaches</li> <li>• Choose how best to present data</li> </ul>

## Concluding and Evaluating

- Begin to talk about what they have found out and how they found it out
- Begin to say what happened in an investigation
- Begin to say whether they were surprised at the results or not
- Begin to say what they would change about an investigation

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- Begin to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- Begin to use straightforward scientific evidence to answer questions or to support their findings
- With help, begin to look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions
- With support, begin to identify new questions arising from the data, make new predictions and find ways of improving what they have already done
- Begin to see a pattern in results
- Begin to say what they found out, linking cause and effect

- Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- Use straightforward scientific evidence to answer questions or to support their findings
- With help, look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions
- With support, identify new questions arising from the data, make new predictions and find ways of improving what they have already done
- See a pattern in results
- Say what was found out, linking cause and effect
- Say how they could make an enquiry better
- Answer questions from what they have found out

- Begin to report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms
- Begin to draw conclusions based on their data and observations, use evidence to justify their ideas, use scientific knowledge and understanding to explain their findings
- Begin to use test results to make predictions to set up further comparatives and fair tests
- Begin to look for different causal relationships in their data and identify evidence that refutes or supports their ideas
- Use their results to identify when further tests and observations are needed.
- Begin to separate opinion from fact
- Begin to draw conclusions and identify scientific evidence
- Know which evidence proves a scientific point
- Begin to use test results to make predictions to set up further comparative and fair tests.

- Report and present findings from enquiries, including conclusions, causal relationships and explanations in oral and written
- Identify scientific evidence that has been used to support or refute ideas or arguments
- Draw conclusions based on their data and observations, use evidence to justify their ideas, use scientific knowledge and understanding to explain their findings
- Use test results to make predictions to set up further comparatives and fair tests
- Look for different causal relationships in their data and identify evidence that refutes or supports their ideas
- Use their results to identify when further tests and observations are needed
- Separate opinion from fact
- Draw conclusions and identify scientific evidence
- Know which evidence proves a scientific point
- Use test results to make predictions to set up further comparative and fair tests