

## Progression in working scientifically skills.

<b>The national curriculum for science aims to ensure that all pupils:</b>			
<ul style="list-style-type: none"> <li>develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics</li> <li>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</li> </ul>		<ul style="list-style-type: none"> <li>are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future</li> </ul>	
<b>EYFS</b>	<b>KS1</b>	<b>Lower KS2</b>	<b>Upper KS2</b>
<p><b>Communication and Language:</b></p> <p>Listening and attention</p> <ul style="list-style-type: none"> <li>Children listen attentively in a range of situations</li> <li>They accurately anticipate key events and respond to what they hear with relevant comments, questions or actions</li> </ul> <p>Understanding</p> <ul style="list-style-type: none"> <li>Children follow instructions involving several ideas or actions. They answer 'how' and 'why' questions</li> </ul> <p>Speaking</p> <ul style="list-style-type: none"> <li>They use past, present and future forms accurately when talking about events that have happened or are to happen in the future</li> </ul> <p><b>Literacy:</b></p> <p>Reading</p> <ul style="list-style-type: none"> <li>Enjoys and increasing range of books</li> <li>Knows that information can be retrieved from books and computers</li> </ul> <p><b>Understanding of the world:</b></p> <p>The world</p> <ul style="list-style-type: none"> <li>Pupils talk about their own immediate environment and how environments might vary from one another.</li> </ul>	<ul style="list-style-type: none"> <li>Pupils explore the world around them and raise their own questions.</li> <li>They experience different types of scientific enquiries, including practical activities, and begin to recognise ways in which they might answer scientific questions.</li> <li>They use simple features to compare objects, materials and living things and, with help, decide how to sort and group them, observe changes over time, and, with guidance, they should begin to notice patterns and relationships.</li> <li>They ask people questions and use simple secondary sources to find answers.</li> <li>They use simple measurements and equipment (for example, hand lenses, egg timers) to gather data, carry out and record simple tests and data, and talk about what they have found out and how they found it out.</li> <li>With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language.</li> </ul>	<ul style="list-style-type: none"> <li>Pupils be given a range of scientific experiences to enable them to raise their own questions about the world around them.</li> <li>They start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions; recognise when a simple fair test is necessary and help to decide how to set it up; talk about criteria for grouping, sorting and classifying; and use simple keys.</li> <li>They begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them.</li> <li>They should 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>They learn how to use new equipment, such as data loggers, appropriately. They should collect data from their own observations and measurements, using notes, simple tables and standard units, and help to make</li> </ul>	<ul style="list-style-type: none"> <li>Pupils use their science experiences to: explore ideas and raise different kinds of questions.</li> <li>They select and plan the most appropriate type of scientific enquiry to use to answer scientific questions; recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why.</li> <li>They use and develop keys and other information records to identify, classify and describe living things and materials, and identify patterns that might be found in the natural environment.</li> <li>They 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; choose the most appropriate equipment to make measurements and explain how to use it accurately.</li> <li>They decide how to record data from a choice of familiar approaches; look for different causal relationships in their data</li> </ul>

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<ul style="list-style-type: none"><li>• They know about similarities and differences in relation to places objects, materials and living things.</li><li>• They make observations of animals and plants and explain why some occur, and talk about changes.</li><li>• They talk about why things happen and how things work</li><li>• Develop an understanding of growth, decay and changes over time</li><li>• Show care and concern for living things and the environment</li></ul>		<p>decisions about how to record and analyse this data.</p> <ul style="list-style-type: none"><li>• With help, pupils should look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. With support, they should 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 have already done. They should also recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations.</li><li>• Pupils use relevant scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences.</li></ul>	<p>and identify evidence that refutes or supports their ideas.</p> <ul style="list-style-type: none"><li>• They use their results to identify when further tests and observations might be needed; recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact.</li><li>• They use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas and should talk about how scientific ideas have developed over time.</li></ul>
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