



### Progression of Skills in Science

The National Curriculum for primary science (2014) 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.

Strand		Early Years Foundation Stage	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Working scientifically	Asking Questions	<ul style="list-style-type: none"> <li>• <b>Explore/Observe</b> - look closely at/notice features in the natural world including animals and plants, weather and seasons, and natural materials e.g. water, ice, sand, stones, etc. • Describe - talk about what they notice/observe in the natural world, e.g. features of animals, plants, natural materials, seasons, weather, etc; talk about changes they notice and changes over time, based on real experiences or books read to them at home or school.</li> <li>• <b>Questioning</b> - show an interest in and be curious about the natural world; ask questions about what they notice/observe or changes that occur, e.g., changes in plants throughout the seasons.</li> <li>• <b>Research</b> - talk to people (visits/visitors/family), think of questions to ask to find out about plants, animals, seasons, processes; use first-hand experiences/use secondary sources, (e.g. books, photographs, internet).</li> <li>• <b>Vocabulary</b> - use simple vocabulary to name and describe objects, materials, living things and environments.</li> </ul>	<ul style="list-style-type: none"> <li>• Ask simple questions and recognise that they can be answered in different ways</li> <li>• Say what they expect to happen</li> <li>• Consider purposes and uses simply (<i>What can we do with plastic?</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• Ask questions and recognise that they can be answered in different ways</li> <li>• Make predictions</li> <li>• Begin to say if a test is fair</li> <li>• Consider purposes and uses (<i>What can we do with waterproof materials?</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• Ask questions related to the topic of study</li> <li>• Make predictions</li> <li>• Suggest what to change, what to measure</li> <li>• Say if the test is fair</li> <li>• Consider purposes and uses. (<i>How can we use forces to help us?</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• Ask questions related to the topic of study</li> <li>• Make predictions</li> <li>• Plan in terms of scientific ideas</li> <li>• Consider purposes and uses in everyday life</li> </ul>	<ul style="list-style-type: none"> <li>• Ask specific questions related to the topic of study</li> <li>• Identify relevant factors to take into account</li> <li>• Make additional predictions based on patterns in data</li> <li>• Consider purposes and uses of the science studied</li> </ul>	<ul style="list-style-type: none"> <li>• Ask specific questions related to the topic of study</li> <li>• Suggest a question to investigate</li> <li>• Consider safety issues</li> <li>• Consider purposes and uses in terms of benefit or harm</li> </ul>
	Measuring and Recording	<ul style="list-style-type: none"> <li>• Talk about what they know and understand about similarities and/or differences, e.g., in relation to the natural world around them and other environments they have learnt about through real experiences or books read at home or school.</li> <li>• <b>Test</b> - make suggestions, show resilience, work with others</li> <li>• <b>Compare/sort/group/identify/classify:</b> notice similarities, notice differences in the natural world, including plants and animals.</li> <li>• <b>Equipment and measures</b> - use senses/use simple equipment to make observations, (e.g., magnifiers, pipettes, egg timers, digital microscopes, etc).</li> </ul>	<ul style="list-style-type: none"> <li>• Suggest how an idea could be tested</li> <li>• Make and communicate observations verbally or by drawing</li> <li>• Measure using standard or non-standard units</li> <li>• Make block graphs</li> </ul>	<ul style="list-style-type: none"> <li>• Make and communicate observations by drawing and by writing</li> <li>• Use comparison in observations</li> <li>• Measure length and time using standard</li> </ul>	<ul style="list-style-type: none"> <li>• Make and communicate observations by writing</li> <li>• Measure length accurately</li> <li>• Measure volume accurately</li> <li>• Record results in tables or charts</li> </ul>	<ul style="list-style-type: none"> <li>• Choose equipment</li> <li>• Make and record observations</li> <li>• Measure temperature and time with appropriate accuracy</li> <li>• Decide on the appropriate way to record results (<i>tables, charts, drawings</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• Choose equipment</li> <li>• Make and record observations</li> <li>• Repeating measurements</li> <li>• Measure with appropriate accuracy</li> <li>• Create framework for recording results (<i>Make tables, charts etc.</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• Choose equipment</li> <li>• Make and record careful observations</li> <li>• Repeating measurements</li> <li>• Measure carefully</li> </ul>

<p style="text-align: center; background-color: #0056b3; color: white; padding: 5px;">Concluding and Evaluating</p>	<ul style="list-style-type: none"> <li>• Record - draw pictures e.g., observational drawings of plants, mini-beasts, take photographs, make models or record in scrapbooks.</li> <li>• Explain - talk about what they know and what they have learnt about the natural world. Talk about why things happen/occur in relation to different processes e.g. ice melting, seasonal changes.</li> </ul>	<ul style="list-style-type: none"> <li>• Say what their observations show</li> <li>• Say if what they expected to happen did happen</li> <li>• Compare observations</li> </ul>	<ul style="list-style-type: none"> <li>• Present information in charts, tables and interpret</li> <li>• Encourage explanations and draw conclusions</li> <li>• Link predictions to findings</li> </ul>	<ul style="list-style-type: none"> <li>• Look for patterns in results</li> <li>• Consider if there is enough evidence</li> <li>• Use scientific knowledge to explain findings</li> </ul>	<ul style="list-style-type: none"> <li>• Interpret evidence</li> <li>• Use results to draw conclusions</li> <li>• Explain findings using scientific knowledge and understanding</li> <li>• Identify and link patterns with explanations</li> <li>• Explain and demonstrate repeats to increase reliability</li> </ul>	<ul style="list-style-type: none"> <li>• Present data in graphs</li> <li>• Present line graphs and linking this to the original idea</li> <li>• Write conclusions based on the evidence or data</li> </ul>	<ul style="list-style-type: none"> <li>• Explain findings scientifically</li> <li>• Decide if the evidence supports the original idea</li> <li>• Decide which observations should be repeated and why</li> <li>• Interpret patterns and identify anomalous results</li> <li>• Consider trends in results and to decide which results do not fit the pattern</li> <li>• Write conclusions based on the evidence or data</li> </ul>