

EYFS and Key Stage 1 Working Scientifically Progression of Skills

	Plan	Do				Review
	Planning	Observing/obtaining evidence and recording				Concluding
EYFS Skills	<p>Show curiosity about objects and events</p> <p>Engage in open-ended activity</p> <p>Ask questions about the natural world</p>	<p>Find ways to solve problems/ find new ways to do things or test ideas</p> <p>Develop ideas of grouping</p> <p>Know about similarities and differences in relation to objects, materials and living things</p> <p>Observe what animals, people and vehicles do and use senses to explore the world around them</p> <p>Choose the resources they need for a chosen activity</p> <p>Handle tools effectively</p>				<p>Make links and notice patterns in their experience</p> <p>Develop own narratives and explanations by connecting ideas or events (speaking)</p> <p>Build a vocabulary that reflects the breadth of their experience</p> <p>Make observations of animals and plants and explain why some things occur and talk about changes</p>
KS 1 National Curriculum Requirement	Asking simple questions and recognising that they can be answered in different ways	Observing closely, using simple equipment	Performing simple tests	Identifying and classifying	Gathering and recording data to help in answering questions	Using their observations and ideas to suggest answers to questions
Working Scientifically Skills Year 1	<p>Explore the world around them and raise their own questions</p> <p>Experience different types of science enquiries, including practical activities</p> <p>Begin to recognise different ways in which they might answer scientific questions</p>	<p>Ask people questions and use simple secondary sources to find answers</p> <p>Observe closely using simple equipment with help, observe changes over time</p> <p>With guidance, begin to notice patterns and relationships</p>	<p>Carry out simple tests</p> <p>Use simple measurements and equipment (eg. hand lenses, egg timers) to gather data</p>	<p>Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them</p> <p>_identifying and classifying)</p>	<p>Record simple data</p> <p>Record and communicate findings in a range of ways and begin to use scientific language</p>	<p>Use observations and ideas to suggest answers to questions</p> <p>Talk about what they have found out and how they found out</p>

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<p>Working Scientifically Skills Year 2</p>	<p>Explore the world around them and raise their own questions t</p> <p>Experience different types of science enquiries, including practical activities</p> <p>Begin to recognise different ways in which they might answer scientific questions</p>	<p>Ask people questions and use simple secondary sources to find answers</p> <p>Observe closely using simple equipment with help, observe changes over time</p> <p>With guidance, begin to notice patterns and relationships</p>	<p>Carry out simple tests</p> <p>Start to consider the idea of fair testing</p> <p>To say what they think might happen</p> <p>Use simple measurements and equipment (e.g. hand lenses, egg timers) to gather data</p>	<p>Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them _identifying and classifying)</p>	<p>Gathering and recording data to help in answering questions and consider presenting findings in a range of ways</p>	<p>Use observations and ideas to suggest answers to questions</p> <p>Talk about what they have found out and how they found out</p> <p>To say whether their predictions were supported</p>
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Lower Key Stage 2 Working Scientifically Progression of Skills

	Planning		Doing		Reviewing/Concluding		
NC WS Strand	Asking relevant questions and using different types of scientific enquiries to answer them	Setting up simple practical enquiries, comparative and fair tests	Making systematic and careful observations and where appropriate, taking accurate measurement using standard units, using a range of equipment, including thermometers and data loggers	Gathering, recording, classifying and presenting data in a variety of ways to help answering questions Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	Identifying differences, similarities or changes related to simple scientific ideas and processes Using straightforward scientific evidence to answer questions or to support their findings	Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions	Using results to draw simple conclusions, make predications for new values, suggest improvements and raise further questions
Skills	Raise their own relevant questions about the world around them Start to think make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations	Set up simple practical enquiries, comparative and fair tests Recognise when a simple fair test is necessary and help to decide how to set it up	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 Take accurate measurements using standard units. Learn how to use a range of equipment, such as data loggers/thermometers appropriately	Collect and record data from their 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 Talk about criteria for grouping, sorting and classifying; and using simple keys	With help, pupils should look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions	Use relevant simple scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audience, displays or presentations of results and conclusions	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 Begin to look for naturally occurring changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions

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Upper Key Stage 2 Working Scientifically Progression of Skills

	Planning	Doing		Reviewing/Concluding		
NC WS Strand	Planning different types of scientific enquiries to answer questions; including recognising and controlling variables where necessary	Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate	Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs	Identifying scientific evidence that has been used to support or refute ideas of arguments	Reporting and presenting findings from enquiries, including relationships and explanations of an degree of trust in results, in oral and written forms such as displays and other presentations	Using test results to make predictions to set up further comparative and fair tests.
Skills	<p>Use their science experiences to explore ideas and raise different kinds of questions</p> <p>Talk about how scientific ideas have developed over time</p> <p>Select and plan the most appropriate type of scientific enquiry to use to answer scientific questions</p> <p>Recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact</p> <p>Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why</p>	<p>Make their own decisions about what observations to make, what measurements to use and how long to make them for</p> <p>Choose the most appropriate equipment to make measurements with increasing precision and explain how to use it accurately.</p> <p>Take repeat measurements where necessary</p>	<p>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>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 element.</p>	Identify scientific evidence that has been used to support or refute ideas or arguments	Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas, use oral and written forms such as displays and other presentations to report conclusions, casual relationships and explanations of degree of trust in results	<p>Use their results to make predictions and identify when further observations, comparative and fair tests might be needed</p> <p>Look for different casual relationships in their data and identify evidence that refutes or supports ideas</p>