



## Science Progression of Skills



	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Asking questions and recognising that they can be answered in different ways</b>	<p>Through teacher modelling, encouragement and support:</p> <ul style="list-style-type: none"> <li>Show curiosity and ask questions.</li> <li>Use their observations to help them answer their questions.</li> </ul>	<ul style="list-style-type: none"> <li>Ask simple questions such as what something is, how things are similar and different, how things work, which choice is better and how things happen.</li> <li>Recognise that their simple questions can be answered in different ways.</li> <li>Answer questions developed with teacher support through a scenario.</li> <li>Where appropriate, answer their own questions.</li> <li>Plan how to use resources provided to answer questions.</li> </ul>	<ul style="list-style-type: none"> <li>Ask relevant questions about the topic being studied.</li> <li>Consider prior knowledge when asking questions.</li> <li>Independently use a range of question stems.</li> <li>Answer their own questions, where appropriate.</li> <li>Answer questions posed by a teacher.</li> <li>Decide independently how to gather evidence to answer a question when given a range of resources.</li> <li>Recognise when secondary sources can be used to answer questions that cannot be answered through practical work.</li> <li>Identify the enquiry skill chosen to answer a question.</li> </ul>	<ul style="list-style-type: none"> <li>Independently ask scientific questions, stimulated by a scientific experience.</li> <li>Ask further scientific questions based on developed understanding following an enquiry.</li> <li>Decide independently how to gather evidence to answer a scientific question given a wide range of resources.</li> <li>Choose a type of enquiry to carry out and justify their choice.</li> <li>Recognise how secondary sources can be used to answer questions that cannot be answered through practical work.</li> </ul>			
<b>Making observations and taking measurements</b>	<p>Through teacher modelling, encouragement and support:</p> <ul style="list-style-type: none"> <li>Make observations using their senses and simple equipment.</li> </ul>	<ul style="list-style-type: none"> <li>Observe closely, using simple equipment.</li> <li>Make careful observations to support identification, comparison and noticing change.</li> <li>Use appropriate senses, aided by equipment such as magnifying glasses, to make observations.</li> <li>Begin to take measurements, initially by comparisons, then using non-standard units.</li> </ul>	<ul style="list-style-type: none"> <li>Make systematic and careful observations.</li> <li>Use a range of equipment, such as thermometers and data loggers, for measuring length, time, temperature and capacity.</li> <li>Use standard units for their measurements.</li> <li>Take accurate measurements.</li> </ul>	<ul style="list-style-type: none"> <li>Taking measurements, using a range of scientific equipment.</li> <li>Take measurements with increasing accuracy and precision.</li> <li>Take repeat readings when appropriate.</li> <li>Select measuring equipment to give the most precise results, such as ruler, tape measure, trundle wheel or force meter.</li> </ul>			



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	<ul style="list-style-type: none"> <li>Record their observations by drawing, taking photographs, using sorting rings and simple tick sheets.</li> <li>Use their observations to help them answer their questions.</li> </ul>			<ul style="list-style-type: none"> <li>During an enquiry, make decisions based on specific enquiry skills e.g. taking repeat readings, increase the sample size, adjust observation period, check further sources.</li> </ul>
<b>Engaging in practical enquiry to answer questions</b>	<p>Through teacher modelling, encouragement and support:</p> <ul style="list-style-type: none"> <li>talk about what they have done and found out.</li> <li>make direct comparisons.</li> <li>identify, sort and group.</li> </ul>	<p>When performing simple tests:</p> <ul style="list-style-type: none"> <li>use practical resources provided to gather evidence to answer questions generated by themselves or a teacher.</li> <li>Carry out tests to classify; comparative tests; pattern seeking enquiries; make observations over time.</li> </ul> <p>When identifying and classifying:</p> <ul style="list-style-type: none"> <li>Use their observations and testing to compare objects, materials and living things.</li> <li>Sort and group things, identifying their own criteria for sorting.</li> <li>Use simple secondary sources (such as identification sheets) to name living things.</li> <li>Describe characteristics used to identify a living thing.</li> </ul>	<p>When setting up simple practical enquiries:</p> <ul style="list-style-type: none"> <li>Select from a range of practical resources to gather evidence to answer questions generated by themselves or a teacher.</li> <li>Follow their plan to carry out observations and tests to classify; observations over time and pattern seeking.</li> <li>Follow their plan to carry out comparative tests by changing a variable that is qualitative.</li> <li>Follow their plan to carry out fair tests by changing a variable that is quantitative.</li> </ul>	<p>When planning different types of scientific enquiries to answer questions:</p> <ul style="list-style-type: none"> <li>Recognise and control variables when necessary.</li> <li>Select from a range of practical resources to gather evidence to answer their questions.</li> <li>Carry out fair tests.</li> <li>Decide what observations or measurements to make over time and for how long.</li> <li>Look for patterns and relationships using a suitable sample.</li> </ul>



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<b>Recording and presenting advice</b>	<p>Through teacher modelling, encouragement and support:</p> <ul style="list-style-type: none"> <li>• Talk about what they have done and found out.</li> <li>• Record their observations by drawing, taking photographs, using sorting rings and on simple tick sheets.</li> </ul>	<ul style="list-style-type: none"> <li>• Gather and record data to help in answering questions.</li> <li>• Record their observations using photographs, videos, drawings, labelled diagrams or in writing.</li> <li>• Record their measurements using prepared tables, pictograms, tally charts and block graphs.</li> <li>• Classify using simple prepared tables and sorting rings.</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>• Sometimes decide how to record and present evidence.</li> <li>• Record observations using photographs, videos, pictures, labelled drawings or writing.</li> <li>• Record their measurements using tables, tally charts and bar charts with given templates.</li> <li>• Record classifications using tables, Venn diagrams and Carroll diagrams.</li> <li>• Present the same data in different ways in order to help with answering the question, with support.</li> </ul>	<ul style="list-style-type: none"> <li>• Record data and results of increasing complexity.</li> <li>• Decide how to record and present evidence.</li> <li>• Record observations using annotated photographs, videos, labelled diagrams, observational drawings, labelled scientific diagrams or writing.</li> <li>• Record measurements using tables, tally charts, bar charts, line graphs and scatter graphs.</li> <li>• Record classifications using tables, Venn diagrams, Carroll diagrams and classification keys.</li> <li>• Present the same data in different ways in order to help with answering the question.</li> </ul>
<b>Answering questions and concluding</b>	<p>Through teacher modelling, encouragement and support:</p> <ul style="list-style-type: none"> <li>• Use their observations to help them answer their questions.</li> </ul>	<ul style="list-style-type: none"> <li>• Use their observations and ideas to suggest answers to questions.</li> <li>• Use experiences of the world to suggest appropriate answers to questions.</li> <li>• Relate their experiences to their evidence, with support.</li> <li>• Recognise 'biggest and smallest', 'best and worst', etc. from their data.</li> </ul>	<ul style="list-style-type: none"> <li>• Use straightforward scientific evidence to answer questions or to support their findings.</li> <li>• Answer their own and others' questions based on observations they have made, measurements they have taken or information they have gained from secondary sources.</li> <li>• Make answers consistent with their evidence.</li> <li>• Identify differences, similarities or changes related to simple scientific ideas and processes.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify scientific evidence that has been used to support or refute ideas or arguments.</li> <li>• Answer their own and others' questions based on observations they have made, measurements they have taken or information they have gained from secondary sources.</li> <li>• Discuss whether other evidence supports or refutes their answer.</li> <li>• Talk about how their scientific ideas change due to new evidence that they have gathered.</li> </ul>



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			<ul style="list-style-type: none"> <li>• Interpret their data to generate simple comparative sentences based on their evidence.</li> <li>• Begin to identify naturally occurring patterns and causal relationships.</li> <li>• Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</li> <li>• Draw conclusions based on their evidence and current subject knowledge.</li> </ul>	<ul style="list-style-type: none"> <li>• Talk about how new discoveries change scientific understanding.</li> <li>• Report and present findings from enquiries in oral and written forms.</li> <li>• Identify causal relationships and patterns in the natural world from their evidence.</li> <li>• Identify results that do not fit the overall pattern.</li> <li>• Explain their findings using subject knowledge.</li> </ul>
<b>Evaluating and raising further questions and predictions</b>			<ul style="list-style-type: none"> <li>• Use results to draw simple conclusions.</li> <li>• Use results to make predictions for new values.</li> <li>• Use results to suggest improvements and raise further questions.</li> <li>• Identify ways in which they adapted their method as they progressed or how they would do it differently if they repeated the enquiry.</li> <li>• Use their evidence to suggest values for different items tested using the same method.</li> <li>• Following a scientific experience, ask further questions which can be answered by extending the same enquiry.</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate the choice of method used, the control of variables, the precision and accuracy of measurements and the credibility of secondary sources used.</li> <li>• Identify any limitations that reduce the trust they have in their data.</li> <li>• Use test results to make predictions to set up further comparative and fair tests.</li> </ul>

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<p>Communicating their findings</p>			<ul style="list-style-type: none"> <li>Communicate their findings from enquiries to an audience both orally and in writing, using appropriate scientific vocabulary.</li> </ul>	<ul style="list-style-type: none"> <li>Communicate their findings to an audience using relevant scientific language and illustrations.</li> </ul>
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## Science Enquiry

### Comparative / fair testing

Changing one variable to see its effect on another, whilst keeping all others the same.



### Research

Using secondary sources of information to answer scientific questions.



### Observation over time

Observing changes that occur over a period of time ranging from minutes to months.



### Pattern-seeking

Identifying patterns and looking for relationships in enquiries where variables are difficult to control.



### Identifying, grouping and classifying

Making observations to name, sort and organise items.



*"..so that pupils learn to use a variety of approaches to answer relevant scientific questions." NC2014*