



Working Scientifically Progression

Year Group	Plan		Do		Review	
	Ask Qs and plan enquiry 	Set up enquiry 	Observe and Measure 	Record 	Interpret and Report 	Evaluate 
EYFS	Show curiosity about objects, events and people. Questions why things happen and asks questions about experiences. Find ways to solve problems. Choose the resources they need for their chosen activity.		Uses senses to explore and closely observe the world around them. Engage in new experiences and learn by trial and error. Create simple representations of objects, people and events. Talk about what they see using a wide range of vocabulary.		Make links and notice patterns in their experience e.g. similarities and differences. Answer how and why questions about their experiences. Develop their own narratives and explanations by connecting ideas or events. Explore and explain how things work.	
1/2	Ask simple Qs and recognise that they can be answered in different ways*. With support, plan how to use resources provided to answer the questions using different types of enquiry.	Perform simple tests. (e.g. tests to classify; comparative tests; pattern seeking enquiries; and make observations over time) <i>Use simple secondary sources to find answers e.g. (identification sheets to name living things.)</i>	Observe closely, using simple equipment. (e.g. hand lenses, egg timers) Begin to take measurements, initially by comparisons, then using non-standard units.	Gather and record data to help in answering questions. Use photos, videos, drawings, labelled diagrams or writing. Record measurements using prepared tables, pictograms, tally charts and block graphs and classify using simple prepared tables and sorting rings.	Use observations and ideas to suggest answers to questions With support, relate these to their evidence e.g. observations they have made, measurements they have taken or information they have gained from secondary sources Use appropriate scientific language to communicate ideas.	
3/4	Ask relevant questions (considering prior knowledge) and use different types* of scientific enquiries to answer them. When given a range of resources, they decide for themselves how to gather evidence to answer the question.	Set up simple practical enquiries, comparative and fair tests. <i>They should also recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations.</i>	Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. (e.g. measuring length, time, temperature or capacity)	Gather, record, classify and present data in a variety of ways to help in answering questions. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, tally charts and tables. Record classifications using tables, Venn diagrams, Carroll diagrams. Begin to present the same data in different ways in order to help with answering the question.	Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Use straightforward scientific evidence to answer questions or to support their findings. Identify differences, similarities or changes related to simple scientific ideas and processes. (e.g. comparative statements based on their evidence or begin to identify naturally occurring patterns and causal relationships.) <i>Pupils should read and spell scientific vocabulary correctly and with confidence, using their growing word reading and spelling knowledge.</i>	Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Identify ways in which they adapted their method as they progressed or how they would do it differently if they repeated the enquiry.
5/6	Plan different types* of scientific enquiries to answer <i>their own questions</i> , including recognising and controlling variables where necessary. They can justify their choices and ask further questions following the enquiry.	Use test results to make predictions to set up further comparative and fair tests.	Select measuring equipment and take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. e.g. ruler, tape measure or trundle wheel, force meter with a suitable scale.	Decide how to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, tally charts scatter graphs, bar and line graphs. Record classifications using tables, Venn diagrams, Carroll diagrams and classification keys. Present the same data in different ways in order to help with answering the question.	Report and present findings from enquiries, including conclusions and causal relationships, in oral and written forms such as displays and other presentations, <i>using appropriate scientific language</i> . Identify results that do not fit the overall pattern and explain their findings using their subject knowledge. Talk about how their scientific ideas change due to new evidence that they have gathered and about how new discoveries change scientific understanding.	Explain degree of trust in results. Identify <i>and evaluate</i> scientific evidence (<i>their own and others'</i>) that has been used to support or refute ideas or arguments. Evaluate, for example, the choice of method used, the control of variables, the precision and accuracy of measurements and the credibility of secondary sources used. Use scientific knowledge gained from enquiry work to make predictions to set up further comparative and fair tests.

*Types of enquiry including: observing changes over time, noticing patterns, grouping and classifying, comparative and fair tests, using secondary sources.