

Working Scientifically Skills Progression

Process	Sub-process	KS1		KS2			
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Planning investigations	Pupils can ask questions	Ask simple questions when prompted	Ask simple questions	Ask relevant questions when prompted	Ask relevant questions		
	Pupils can plan an enquiry	Suggest ways of answering a question	Recognise that questions can be answered in different ways	Set up simple and practical enquiries, comparative and fair tests	Plan different types of scientific enquiries to answer questions	With prompting, plan different types of scientific enquiries to answer questions	Plan different types of scientific enquiries to answer questions
	Pupils can identify and manage variables			Set up comparative tests	Set up simple and practical enquiries, comparative and fair tests	With prompting, recognise and control variables where necessary	Recognise and control variables where necessary
Conducting experiments	Pupils can use equipment to take measurements	Make relevant observations	Observe closely, using simple equipment Perform simple tests	Make systematic observations, using simple equipment	Make systematic and careful observations using a range of equipment, including thermometers and data loggers	Select, with prompting, and use appropriate equipment to take readings	Take measurements using a range of scientific equipment
	Pupils explore how to improve the quality of data	Conduct simple tests with support		Use standard units when taking measurements	Take accurate measurements using standard units, where appropriate	Take precise measurements using standard units	Take measurements with increasing accuracy and precision
	Pupils understand the role of repeat readings					Take and process repeat readings	Take repeated readings when appropriate
Recording evidence	Pupils record work with diagrams and label them	With prompting, suggest how findings could be recorded	Record and communicate their findings in a range of ways and begin to use simple scientific language	Record findings in various ways	Record findings using simple scientific language, drawings and labelled diagrams	Record data and results	Record data and results of increasing complexity using scientific diagrams and labels
	Pupils can display data using labelled diagrams, keys, tables and bar			With prompting, suggest how findings may be tabulated	Record findings using keys, bar charts, and tables	Record data using labelled diagrams, keys, tables and charts	Record data and results of increasing complexity using scientific diagrams and labels,



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	charts						classification keys, tables and bar charts
	Pupils can display data using line graphs			With prompting, use various ways of recording, grouping and displaying evidence	Gather, record, classify and present data in a variety of ways to help answer questions	Use line graphs to record data	Record data and results of increasing complexity using line graphs
Reporting findings	Pupils process findings to develop conclusions and identify causal relationships	Recognise findings	Identify and classify	With prompting, suggest conclusions from enquiries	Report on findings from enquiries, including oral and written explanations, of results and conclusions	Report and present findings from enquiries, including conclusions and, with prompting, suggest causal relationships	Report and present findings from enquiries, including conclusions and causal relationships
	Pupils use displays and presentations to report findings			Suggest how findings could be reported	Report on findings from enquiries using displays or presentations	With support, present findings from enquiries orally and in writing	Report and present findings from enquiries in oral and written forms such as displays and other presentation
	Pupils explain confidence in findings					With prompting, identify that not all results may be trustworthy	Report and present findings from enquiries, including explanations of, and degree of, trust in results
Conclusions and predictions	Pupils can analyse data	Gather and record data	Gather and record data to help answer questions	Gather and record data about similarities, differences and changes	Identify differences, similarities or changes related to simple scientific ideas and processes		
	Pupils can draw conclusions	Use observations to suggest answers to questions	Use their observations and ideas to suggest answers to questions	With prompting, suggest conclusions that can be drawn from data	Use straightforward scientific evidence to answer questions or to support findings	Suggest how evidence can support conclusions	Identify scientific evidence that has been used to support or refute ideas or arguments
	Pupils can develop investigation further			Suggest possible improvements or further questions to investigate	Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions	Suggest further comparative tests	Use test results to make predictions to set up further comparative and fair tests



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<p>key vocabulary</p>	<p style="text-align: center;"><u>New vocab</u></p> <p>Properties, observe, describe, test, question, object, equipment, question, answer, record, identify, classify, sort, group, compare, magnifying glass, biology, chemistry, physics, data.</p>	<p style="text-align: center;"><u>Revision</u></p> <p>Properties, observe, describe, test, question, object, equipment, question, answer, record, identify, classify, sort, group, compare, magnifying glass, biology, chemistry, physics, data.</p> <p style="text-align: center;"><u>New vocab</u></p> <p>Plan, prediction, conclusion, research, measurement, gather, record, present, oral and written explanations, evidence, scientific enquiry, comparative and fair test, differences, similarities, changes, improve, accurate, secondary sources, guides, construct, interpret, theory, hypothesis, systematic, labelled diagrams, keys, bar charts, tables, thermometer, data logger.</p>	<p style="text-align: center;"><u>Revision</u></p> <p>Plan, Prediction, conclusion, research, measurement, gather, record, present, oral and written explanations, evidence, scientific enquiry, comparative and fair test, differences, similarities, changes, improve, accurate, secondary sources, guides, construct, interpret, theory, hypothesis, systematic, labelled diagrams, keys, bar charts, tables, thermometer, data logger.</p> <p style="text-align: center;"><u>New vocab</u></p> <p>Line graph, relationship, outlier, variables, repeat readings, scientific diagrams, classification keys, scatter graphs, line graphs, causal relationships, degree of trust, oral and written display and presentation, support, refute ideas or arguments, patterns, systematic, quantitative measures.</p>
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