



Working Scientifically

Breakdown for Working Scientifically	Sub-process	Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
1) Planning investigations	a) Pupils can ask questions	Can they ask simple questions when prompted?	Can they ask simple questions?	Can they ask relevant questions when prompted?	Can they ask relevant questions?		
	b) Pupils can plan an enquiry	Can they suggest ways of answering a question?	Can they recognise that questions can be answered in different ways?	Can they set up simple and practical enquiries, comparative and fair tests?	Can they plan different types of scientific enquiries to answer questions?	Can they, with prompting, plan different types of scientific enquiries to answer questions?	Can they plan different types of scientific enquiries to answer questions?
	c) Pupils can identify and manage variables			Can they set up comparative tests?	Can they set up simple and practical enquiries, comparative and fair tests?	Can they, with prompting, recognise and control variables where necessary?	Can they recognise and control variables where necessary?
2) Conducting experiments	a) Pupils can use equipment to take measurements	Can they make relevant observations? Can they conduct simple tests, with support?	Can they observe closely using simple equipment? Can they perform simple tests?	Can they make systematic observations using simple equipment?	Can they make systematic and careful observations using a range of equipment, including thermometers and data loggers?	Can they select, with prompting, and use appropriate equipment to take readings?	Can they take measurements using a range of scientific equipment?
	b) Pupils explore how to improve the quality of data		Can they use standard units when taking measurements?		Can they take accurate measurements using standard units, where appropriate?	Can they take precise measurements using standard units?	6.2.b.1 Take measurements with increasing accuracy and precision
	c) Pupils understand the role of repeat readings					Can they take and process repeat readings (+)?	Can they take repeat readings when appropriate?

3) Recording evidence	a) Pupils record work with diagrams and label them	Can they, with prompting, suggest how findings could be recorded?	Can they record and communicate their findings in a range of ways and begin to use simple scientific language?	Can they record findings in various ways?	Can they record findings using simple scientific language, drawings and labelled diagrams?	Can they record data and results?	Can they record data and results of increasing complexity using scientific diagrams and labels?
	b) Pupils can display data using labelled diagrams, keys, tables and bar charts			Can they, with prompting, suggest how findings may be tabulated?	Can they record findings using keys, bar charts, and tables?	Can they record data using labelled diagrams, keys, tables and charts?	Can they record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar charts?
	c) Pupils can display data using line graphs			Can they, with prompting, use various ways of recording, grouping and displaying evidence?	Can they gather, record, classify and present data in a variety of ways to help to answer questions?	Can they use line graphs to record data?	Can they record data and results of increasing complexity using line graphs?
4) Reporting findings	a) Pupils process findings to develop conclusions and identify causal relationships	Can they recognise findings?	Can they identify and classify?	Can they, with prompting, suggest conclusions from enquiries?	Can they report on findings from enquiries, including oral and written explanations of results and conclusions?	Can they report and present findings from enquiries, including conclusions and, with prompting, suggest causal relationships?	Can they report and present findings from enquiries, including conclusions and causal relationships?
	b) Pupils use displays and presentations to report on findings			Can they suggest how findings could be reported?		Can they, with support, present findings from enquiries orally and in writing?	Can they report and present findings from enquiries in oral and written forms such as displays and other presentations?
	c) Pupils explain confidence in findings					Can they, with prompting, identify that not all results may be trustworthy?	Can they report and present findings from enquiries, including explanations of, and degree of, trust in results?

5) Conclusions and predictions	a) Pupils can analyse data	Can they gather and record data?	Can they gather and record data to help answer questions?	Can they gather and record data about similarities, differences and changes?	Can they identify differences, similarities or changes related to simple scientific ideas and processes?		
	b) Pupils can draw conclusions	Can they use observations to suggest answers to questions?	Can they use their observations and ideas to suggest answers to questions?	Can they, with prompting, suggest conclusions that can be drawn from data?	Can they use straightforward scientific evidence to answer questions or to support their findings?	Can they suggest how evidence can support conclusions?	Can they identify scientific evidence that has been used to support or refute ideas or arguments?
	c) Pupils can develop investigation further			Can they suggest possible improvements or further questions to investigate?	Can they use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions?	Can they suggest further comparative or fair tests?	Can they use test results to make predictions to set up further comparative and fair tests?