WORKING SCIENTIFICALLY		
KS1	**LOWER KS2**	**UPPER KS2**
During Years 1 and 2 pupils should be taught how to use the following practical scientific methods, processes and skills through the programme of study content:	**During Years 3 and 4 pupils should be taught how to use the following practical scientific methods, processes and skills through the programme of study content:**	**During Years 5 and 6 pupils should be taught how to use the following practical scientific methods, processes and skills through the programme of study content:**
explore the world around them and raise their own simple questions	raise their own relevant questions about the world around them	use their science experiences to explore ideas and raise different kinds of questions
begin to recognise different ways in which they might answer scientific questions	Set up simple practical enquiries, comparative and fair tests and recognise when a simple fair test is necessary and help to decide how to set it up	recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why
experience different types of science enquiries, including practical activities and carry out simple tests	start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions	select and plan the most appropriate type of scientific enquiry to use to answer scientific questions
use simple features to compare objects, materials and living things and, with help, decide how to sort and group them (identifying and classifying)	talk about criteria for grouping, sorting and classifying; and use simple keys	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 environment
with help, they should record and communicate their findings in a range of ways and begin to use simple scientific language	use relevant simple scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences, including oral and written explanations, displays or presentations of results and conclusions	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, causal relationships and explanations of degree of trust in results
use simple measurements and equipment (e.g. hand lenses, egg timers) to gather and simple data	take accurate measurements using standard units learn how to use a range of (new) equipment, such as data loggers / thermometers appropriately	choose the most appropriate equipment to make measurements with increasing precision and explain how to use it accurately. Take repeat measurements where appropriate.
record simple data	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	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
use their observations and ideas to suggest answers to questions and talk about what they have found out and how they found it out	with help, pupils should look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions.	identify scientific evidence that has been used to support or refute ideas or arguments

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with guidance, they should begin to notice patterns and relationships	begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them	look for different causal relationships in their data and identify evidence that refutes or supports their ideas
with help, they should record and communicate their findings in a range of ways and begin to use simple scientific language	use relevant simple scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences, including oral and written explanations, displays or presentations of results and conclusions	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, causal relationships and explanations of degree of trust in results
	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.	use their results to make predictions and identify when further observations, comparative and fair tests might be needed