

Working Scientifically in Upper Key Stage Two (Years 5 and 6)

Ideas & Questions	Planning		
	Planning an approach	Equipment	Variables
<ul style="list-style-type: none"> • Uses their scientific experiences to explore ideas and raise different types of questions • Talks about how scientific ideas have developed over time • Recognises the applications of specific scientific ideas 	<ul style="list-style-type: none"> • Selects and plans different types of scientific enquiries to answer questions • Makes decisions about what observations to make, what measurements to use, how long to make them for and whether to repeat them 	<ul style="list-style-type: none"> • Choose the most appropriate equipment to make measurements • Explains how to use the equipment accurately 	<ul style="list-style-type: none"> • recognises when and how to set up comparative and fair tests • recognises and controls variables where necessary (e.g. explains which variables need to be controlled and why)
Obtaining & Presenting Evidence			
Observing & measuring	Secondary sources	Recording information & data	Presenting evidence
<ul style="list-style-type: none"> • Takes measurements, in standard units, using a range of scientific equipment, with increasing accuracy and precision • Takes repeat readings where appropriate 	<ul style="list-style-type: none"> • Recognises which secondary sources will be most useful to research their ideas • Begins to separate opinion from fact 	<ul style="list-style-type: none"> • Records data and results of increasing complexity • Decides how to record data from a choice of familiar approaches • Calculates mean value where appropriate 	<ul style="list-style-type: none"> • Records and presents findings using scientific diagrams and labels, classification keys, tables, bar and line graphs • Reports on findings from enquiries, using relevant scientific language and conventions, in oral and written explanations such as displays and other presentations
Considering & Evaluating Evidence			
Looking for patterns	Explaining results	Communication	Evaluating
<ul style="list-style-type: none"> • Uses and develops keys and other information records to identify and classify and describe living things and materials • Identifies conclusions, causal relationships and explanation of results • Identifies patterns that might be found in the natural environment 	<ul style="list-style-type: none"> • Draws valid conclusion, explains and interprets the results (including degree of trust) using scientific knowledge and understanding (e.g. recognises limitations of data) • Identifies scientific evidence that has been used to support of refute ideas or arguments 	<ul style="list-style-type: none"> • Uses relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas 	<ul style="list-style-type: none"> • Makes practical suggestions about how their working method could be improved (e.g. sample size on reliability) • Uses results to identify when further tests and observations might be needed • Uses test results to make predictions and to set up further comparative and fair tests