

Working Scientifically Pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the key ideas:

	Years 1 and 2	Years 3 and 4	Years 5 and 6
PLANNING	<ul style="list-style-type: none"> • asking simple questions and recognising that they can be answered using different kinds of scientific enquiry including: <ul style="list-style-type: none"> - observing changes over a period of time - noticing patterns - identifying, grouping and classifying things - carrying out simple comparative tests - using secondary sources 	<ul style="list-style-type: none"> • asking relevant questions and <u>beginning to make decisions</u> about the best type of scientific enquiry to answer them including: <ul style="list-style-type: none"> - observing changes over a period of time - noticing patterns - identifying, grouping and classifying things - carrying out simple comparative tests - using secondary sources - using simple keys • <u>making decisions</u> about how to set up simple practical enquiries <u>with support</u> • recognising when a simple fair test is necessary and setting it up with support 	<ul style="list-style-type: none"> • <u>independently selecting the most appropriate way</u> to answer scientific questions using different kinds of scientific enquiry including <ul style="list-style-type: none"> - observing changes over a period of time - noticing patterns - identifying, grouping and classifying things - carrying out simple comparative tests - recognising and controlling variables in a fair test where necessary - finding things out using a wide range of secondary sources • <u>making their own decisions</u> about what observations and measurements to make, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
GATHERING EVIDENCE	<ul style="list-style-type: none"> • observing closely, using simple equipment e.g. hand lenses, egg timers • gathering and recording data to help in answering questions. 	<ul style="list-style-type: none"> • making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including <u>thermometers</u> and <u>data loggers</u> • gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • recording findings in a variety of ways, including: simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables 	<ul style="list-style-type: none"> • <u>deciding how to record data and results</u> from a choice of familiar approaches of increasing complexity e.g scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
DRAWING CONCLUSIONS AND EVALUATING	<ul style="list-style-type: none"> • communicating their findings in a range of ways using simple scientific language. 	<ul style="list-style-type: none"> • reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • using results to draw simple conclusions, make predictions for new values within or beyond the data they have collected, suggest improvements and raise further questions • identifying differences, similarities, changes or patterns related to simple scientific ideas, processes and data • using straightforward scientific evidence to answer questions or to support their findings. 	<ul style="list-style-type: none"> • using test results to make predictions to set up further comparative and fair tests • reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations • identifying scientific evidence that has been used to support or refute their own ideas or arguments, or those of others.