



Working scientifically skills progression

Throughout the year aim to cover all types of scientific enquiry, which are: observation over time, identifying and classifying (grouping), pattern seeking (repeating investigations and looking for patterns), research, comparative (ks1) and fair testing (ks2).

KS1 – Years 1 and 2	Lower KS2 – Years 3 and 4	Upper KS2 – Years 5 and 6
<p>Year 1 – Given a scientific question and told the type of enquiry, children conduct investigation with supervision and discuss what they are doing and what they have found out.</p> <p>Year 2 – Given a scientific question and told the type of enquiry, children begin to plan investigations using the planning boards where appropriate with support – investigations carried out a bit more independently, children discuss what they have found out, scientific language introduced – prediction, results, conclusion, type of enquiry etc.</p>	<p>Years 3 and 4 – Children begin to become familiar with the different types of scientific enquiry, children given help to formulate scientific questions and to choose the appropriate enquiry to answer the question. Year 3 still need support with planning an investigation and scientific language must always be used. Children begin to record results and write down their conclusions with support. Year 4 should be very familiar with scientific language and planning investigations more independently as part of a group. Results should always be recorded and conclusions written down.</p>	<p>Years 5 and 6 – Children should understand the different types of scientific enquiry well and have a good understanding of scientific language. Children should be able to formulate their own scientific questions, and be able to choose the appropriate type of enquiry to answer their question. Children should plan investigations independently using planning boards where appropriate and write simple scientific reports including – scientific question, prediction, method, results, diagrams and conclusions. Children should also understand what went well with an investigation and what could be improved upon.</p>
<ul style="list-style-type: none"> - Asking simple questions and recognising that they can be answered in different ways (enquiry methods). - Observing closely, using simple equipment. - Performing simple tests. - Identifying and classifying. - Using their observations and ideas to suggest answers to questions. - Gathering and recording data to help in answering questions. 	<ul style="list-style-type: none"> - Asking simple questions and using different types of scientific enquiry to answer them. - Setting up simple practical enquiries, comparative and fair tests. - Making careful observations and where appropriate taking accurate measurements using standard units and a range of equipment including thermometers and data loggers. - Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. 	<ul style="list-style-type: none"> - Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. - Taking measurements using a range of scientific equipment with increasing accuracy and precision, taking repeat readings when appropriate or if anomalies are found. - Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.

	<ul style="list-style-type: none"> - Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. - Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. - Using results to draw simple conclusions, suggest some improvements and ask further questions. - Identify differences, similarities or changes related to simple scientific ideas and processes. - Use straightforward scientific evidence to answer questions or to support their findings. 	<ul style="list-style-type: none"> - Using test results to make predictions and 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. - Identify scientific evidence that has been used to support or refute ideas or arguments.
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