

Science progression of skills- Working scientifically (disciplinary knowledge)

Year Group	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Knowledge of scientific methods	<p>To ask simple questions and recognise that they can be answered in different ways</p> <p>To perform a simple test</p> <p>To identify and classify things they observe</p> <p>To use observations and ideas to suggest answers to questions</p> <p>To gather and record data to help in answering questions</p>	<p>To ask simple questions about what they notice and recognise that they can be answered in different ways</p> <p>To use different scientific enquires including: -Grouping and classifying things -Observing changes over time With guidance: Begin to notice patterns and relationships</p> <p>To ask people questions and use simple secondary sources to find answers</p>	<p>To ask relevant questions and use different scientific enquires to answer them including: -Observing changes over time -Noticing similarities, differences and patterns -Grouping and classifying things -Carrying out simple comparative tests -Finding things out using secondary sources of information</p> <p>To plan simple, practical enquires, comparative and fair tests</p>	<p>To ask their own questions and use different types of scientific enquires to answer them</p> <p>To set up simple practical enquires, comparative and fair tests</p> <p>To make predictions based on something they have found out</p> <p>To decide which information needs to be collected and decide which is the best way for collecting it</p>	<p>To plan different types of scientific enquires to answer questions, including recognising and controlling variables where necessary</p>	<p>To ask your own questions about the scientific phenomena you are studying, and select and plan the most appropriate ways to answer these questions, or those of others, recognising and controlling variables where necessary - including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests, and finding things out using a wide range of secondary sources of information</p>
Knowledge of apparatus and techniques, including measurement	<p>To observe closely using simple equipment E.g. Hand lenses, egg timers</p>	<p>To use simple measurements and equipment to gather data E.g. Hand lenses, egg timers</p>	<p>To make systematic and careful observations and where appropriate, take accurate measurements using standard units E.g. data loggers, metre rulers</p>	<p>To take measurements using different equipment and units of measure and record what they have found in a range of ways E.g. thermometers</p> <p>To make accurate measurements using standard units</p>	<p>To take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</p> <p>To use test results to make predictions to set up further comparative and fair tests</p>	<p>To use a range of scientific equipment to take accurate and precise measurements or readings, with repeat readings where appropriate.</p> <p>To choose the most appropriate equipment to make measurements and explain how to use it accurately</p>
Knowledge of data analysis and presentation	<p>To show their work using pictures, labels, captions and simple tables</p>	<p>To record and communicate findings in a range of ways and begin to use simple scientific language</p> <p>To use text, diagrams, pictures, charts, tables to record their observations</p>	<p>To record their observations in different ways, using simple scientific language, drawings, labelled diagrams, bar charts and tables</p> <p>To gather, record, classify and present data in a variety of ways to help in answering questions</p>	<p>To record their observations in different ways, using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables</p> <p>To explain their findings in different ways, for example, display, presentation, writing</p>	<p>To record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p>	<p>To record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p>
Knowledge of how science uses evidence to develop explanations	<p>To tell other people about what they have done</p>	<p>To record and communicate findings in a range of ways and begin to use simple scientific language</p>	<p>To report on findings from enquiries, including oral and written explanation, displays or presentations of results and conclusions</p> <p>To use straightforward scientific evidence to answer questions or to support their findings</p>	<p>To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>To identify differences, similarities or changes related to simple scientific ideas or processes</p>	<p>To report and present 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</p> <p>To identify scientific evidence that has been used to support or refute ideas or arguments</p>	<p>To use scientific language and ideas to explain, evaluate and communicate their methods and findings.</p> <p>To describe and evaluate own and other people's scientific ideas related to topics, using evidence from a range of sources</p> <p>To draw conclusions, explain and evaluate their methods and findings, communicating these in a variety of ways</p>