

Progression Map for: SCIENCE SKILLS

Types of enquiry include: Observing over time, noticing patterns, grouping and classifying, comparative and fair testing and using secondary sources

| | By the end of Year 1 | By the end of Year 2 | By the end of Year 3 | By the end of Year 4 | By the end of Year 5 | By the end of Year 6 |
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| Planning- Ask questions and plan / set up enquiries | <p>Say what they think will happen</p> <p>Ask questions</p> <p>Test ideas suggested to them</p> <p>Use first hand experiences to answer questions</p> | <p>Ask simple questions and recognise that they can be answered in different ways</p> <p>Begin to suggest how to find things out</p> <p>Suggest how they could collect data to answer questions</p> <p>Begin to select equipment from a limited range</p> | <p>Put forward their own ideas about how to find the answers to questions</p> <p>Recognise the need to collect data to answer questions</p> <p>With help, pupils begin to realise that scientific ideas are based on evidence</p> <p>With help, set up simple practical enquiries, comparative and fair tests</p> | <p>Ask relevant questions and use different types of scientific enquiries to answer them</p> <p>Decide on an appropriate approach in their own investigations to answer questions</p> <p>Set up simple practical enquiries, comparative and fair tests</p> <p>Show in the way they perform their task how to vary one factor while keeping others the same</p> <p>With help, pupils begin to realise that scientific ideas are based on evidence</p> <p>Describe which factors they are varying and which will remain the same and say why</p> | <p>Ask relevant questions and use different types of scientific enquiries to answer them</p> <p>Recognise the key factors to be considered in carrying out a fair test</p> <p>Use previous knowledge and experiences combined with experimental evidence to provide scientific explanations</p> <p>Select equipment for a range of tasks</p> <p>Plan to use the equipment effectively</p> | <p>Plan different types of scientific enquiries to answer their own questions, including recognising and controlling variables where necessary</p> <p>Use test results to make predictions to set up further comparative and fair tests</p> <p>Describe evidence for a scientific idea</p> <p>Use scientific knowledge to identify an approach for an investigation</p> |

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| <p style="text-align: center;">DO - observe and measure / Record</p> | <p>Perform simple tests</p> | <p>Gather and record data (supported by the teacher) to help in answering questions</p> | <p>Make relevant observations</p> | <p>Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</p> | <p>Begin to make repeat observations and measurements systematically</p> | <p>Take measurement, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</p> |
| | <p>Make observations using appropriate senses</p> | <p>Make observations relevant to their task</p> | <p>Select equipment from a given range appropriate for the task</p> | <p>Gather, record, classify and present data in a variety of ways to help in answering questions.</p> | <p>Make a series of observations, comparisons and measurements with increasing precision</p> | <p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line (possibly scatter) graphs</p> |
| | <p>Communicate observations orally, in drawing, labelling, simple writing and using ICT</p> | <p>Describe their observations using some scientific vocabulary</p> | <p>Measure using given equipment</p> | <p>Select the appropriate format to record observations</p> | <p>Use appropriate scientific language to communicate data</p> | <p>Choose scales for graphs which show data and features effectively</p> |
| | <p>Begin to compare some living things</p> | <p>Use simple equipment to aid observation</p> | <p>Record their observations in written, pictorial or diagrammatic forms and tables as directed by their teacher</p> | <p>Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables</p> | | <p>Identify measurements and observations which do not fit into the main pattern</p> |
| | <p>Use simple charts to communicate findings</p> | <p>Compare objects, living things or events</p> | <p>Carry out a fair test with support</p> | | | <p>Understand the need for repeat testing and explain anomalous data</p> |
| | <p>Use simple equipment to observe and/or measure</p> | <p>Begin to recognise when a test or comparison is unfair</p> | | | | <p>Make enough measurements or observations for the required task</p> |
| | | <p>Respond to questions asked by the teacher</p> | | | | <p>Measure quantities with precision using fine divisions</p> <p>Select and use information effectively</p> |

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| Review – interpret and report / Evaluate | Make simple comparisons and groupings | Use their observations and ideas to suggest answers to questions | Use simple texts to find information | Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions | Select a range of appropriate sources of information including books, internet etc | Record and present findings from enquiries, including conclusions and causal relationships, in oral and written forms such as displays and other presentations, using appropriate language |
| | Say what has happened | Identify and classify, using appropriate scientific language to communicate ideas | Begin to offer explanations for what they see and communicate in scientific way what they have found out | Identify differences, similarities or changes related to simple scientific ideas and processes | Relate evidence to scientific knowledge and understanding | Explain conclusions showing understanding of scientific ideas |
| | Say whether what has happened was what they expected | Use a range of simple texts, directed by the teacher, to find information | Begin to identify patterns in recorded measurements | Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions, giving reasons | Offer simple explanations for any differences in their results | Explain degree of trust in result |
| | | Identify key features | Suggest improvements and / or further investigations in their work | Use straight forward scientific evidence to answer questions or to support their findings | Make predictions based on their scientific knowledge and understanding | Identify and evaluate scientific evidence (theirs and others) that has been used to support or refute ideas or argument |
| | | Say what has happened | Evaluate their findings | | Draw conclusions that are consistent with the evidence | |
| | | Say what their observations show and whether it was what they expected | | Find information from a range of texts/sources provided for them | Make practical suggestions about how their | Explain how the interpretation leads to new ideas |
| | | Begin to draw simple conclusions and explain what they did | | Predict outcomes using previous experience and knowledge and compare with actual results | | |
| | Begin to suggest improvements in their work | | | | | |