

## Working Scientifically- Curriculum Map

|                          | Year 1  | Year 2  | Year 3   | Year 4  | Year 5  | Year 6  |
|--------------------------|---|---|--|---|---|---|
| <b>Ask questions</b>     | • Ask simple questions.   | • Ask simple questions and recognise that they can be answered in different ways.                     | • Ask questions and understand there are different enquiry types they could use to answer them.  | • Ask relevant questions and use different types of scientific enquiry to answer them.  | • Ask scientific questions and begin to understand which questions would be best suited to each enquiry type.   | • Ask relevant scientific questions and choose which enquiry type would be best suited to answer them.  |
| <b>Plan</b>              | • Verbally state what they are going to investigate.                      | • Make simple predictions based on a question.<br>• Identify what they will change and keep the same. | • Make relevant predictions.<br>• Identify what they will change, observe and keep the same.<br>• With support, set up simple practical enquiries. | • Make predictions based on simple scientific knowledge.<br>• Identify what they will change, observe or measure and keep the same.<br>• Set up simple practical enquiries, comparative and fair tests. | • Make predictions based on scientific knowledge.<br>• With support, plan different types of scientific enquiry. Where appropriate, identify the dependent, independent and controlled variables. | • Make predictions based on scientific knowledge.<br>• Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. |
| <b>Make observations</b> | • Observe closely.  | • Observe closely, using simple equipment.  | • Begin to use scientific equipment to make observations.  | • Make systematic and careful observations.   | • Use a range of scientific equipment to make systematic and careful observations.  | • Use a range of scientific equipment to make systematic and careful observations with increased complexity.  |
| <b>Take measurements</b> | • Carry out simple tests using nonstandard measurements when appropriate. | • Perform simple tests using standard units when appropriate.   | • Carry out tests and simple experiments and take measurements using standard units.   | • Take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.   | • Take accurate measurements using a range of scientific equipment. Start to take repeat readings when appropriate.   | • Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.  |

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| <b>Gather, record and classify data</b>      | <ul style="list-style-type: none"> <li>• Gather and record simple data.</li> <li>• Sort objects and living things into groups based on simple properties.</li> </ul> | <ul style="list-style-type: none"> <li>• Gather and record data to help in answering questions.</li> <li>• Identifying and classifying.</li> </ul> | <ul style="list-style-type: none"> <li>• Gather and record data in different ways to help answer questions.</li> <li>• Recording findings using simple scientific language, drawings, labelled diagrams, bar charts, and tables.</li> </ul> | <ul style="list-style-type: none"> <li>• Gather, record and classify data in a variety of ways to help in answering questions.</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</li> </ul>  | <ul style="list-style-type: none"> <li>• Gather, record and classify data with increasing complexity to help in answering questions.</li> <li>• Record data using scientific diagrams and labels, classification keys, tables, bar and line graphs.</li> </ul>                                    | <ul style="list-style-type: none"> <li>• Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</li> </ul>   |
| <b>Present findings</b>                      | <ul style="list-style-type: none"> <li>• Explain what they found out to an adult or a partner.</li> </ul>  | <ul style="list-style-type: none"> <li>• Talk about what they have found out and how they found it out. (non-statutory)</li> </ul>                 | <ul style="list-style-type: none"> <li>• Report on findings from enquiries, including oral and written explanations.</li> </ul>   | <ul style="list-style-type: none"> <li>• Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> </ul>  | <ul style="list-style-type: none"> <li>• Report and present findings from enquiries, including conclusions.</li> <li>• Begin to identify causal relationships in oral and written forms such as displays and other presentations.</li> </ul>  | <ul style="list-style-type: none"> <li>• Report and present findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations.</li> </ul>                                  |
| <b>Answer questions and make conclusions</b> | <ul style="list-style-type: none"> <li>• Answer simple questions.</li> </ul>   | <ul style="list-style-type: none"> <li>• Use their observations and ideas to suggest answers to questions.</li> </ul>                              | <ul style="list-style-type: none"> <li>• Make simple conclusions.</li> <li>• Use results, findings or observations to answer questions.</li> </ul>  | <ul style="list-style-type: none"> <li>• Use straightforward scientific evidence to answer questions or to support their findings.</li> <li>• Use results to draw simple conclusions.</li> <li>• Begin to identify differences, similarities or changes related to simple ideas or processes.</li> </ul> | <ul style="list-style-type: none"> <li>• Use scientific evidence to answer questions.</li> <li>• Make conclusions based on scientific evidence and from their own testing and findings.</li> <li>• Identify differences, similarities or changes related to simple ideas or processes.</li> </ul> | <ul style="list-style-type: none"> <li>• Use scientific evidence to answer questions.</li> <li>• Make conclusions based on scientific evidence and from their own testing and findings.</li> <li>• Identify scientific evidence that has been used to support or refute ideas or arguments.</li> </ul> |

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| <b>Evaluate</b> |  |  | <ul style="list-style-type: none"> <li>• Suggest questions for further investigation.</li> </ul> | <ul style="list-style-type: none"> <li>• Begin to make predictions for new values, suggest improvements and raise further questions.</li> </ul> | <ul style="list-style-type: none"> <li>• Make predictions for new values, suggest improvements and raise further questions.</li> </ul> | <ul style="list-style-type: none"> <li>• Use test results to make predictions to set up further comparative and fair tests.</li> <li>• Suggest investigation improvements including accuracy of results.</li> <li>• Provide some simple examples of how to extend the investigation.</li> </ul> |
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