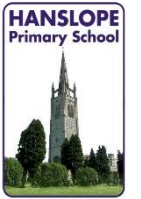


# WORKING SCIENTIFICALLY



## Progression of Knowledge, Skills and Vocabulary

EYFS	On-going skills	Early Learning Goals
<b>Enquiry skills</b>	<p>Show curiosity about objects, events and people</p> <p>Questions why things happen Engage in open-ended activity</p> <p>Take a risk, engage in new experiences and learn by trial and error</p> <p>Find ways to solve problems / find new ways to do things / test their ideas</p> <p>Develop ideas of grouping, sequences, cause and effect</p> <p>Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world</p> <p>Use senses to explore the world around them</p> <p>Make links and notice patterns in their experiences</p> <p>Create simple representations of events, people and objects</p> <p>Build up vocabulary that reflects the breadth of their experience</p>	<p>Choose the resources they need for their chosen activities</p> <p>Handle equipment and tools effectively</p> <p>Answer how and why questions about their experiences</p> <p>Make observations</p> <p>Develop their own narratives and explanations by connecting ideas or events</p> <p>Explain why some things occur and talk about changes</p>
<b>Knowledge and understanding of the world</b>	<p>Know about the similarities and differences in relation to places, objects, materials and living things.</p> <p>Talk about the features of their own immediate environment and how environments might vary from one another.</p> <p>Make observations of animals and plants and explain why some things occur, and talk about changes.</p>	

Working Scientifically	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Plan</b>	<p>Ask simple questions when prompted.</p> <p>Suggest ways of answering a question.</p> <ul style="list-style-type: none"> <li>• <i>With support, I can ask simple questions.</i></li> <li>• <i>I can make suggestions about what I think might happen.</i></li> </ul>	<p>Ask simple questions.</p> <p>Recognise that questions can be answered in different ways.</p> <ul style="list-style-type: none"> <li>• <i>I can ask simple questions.</i></li> <li>• <i>I find information from books or other printed sources.</i></li> </ul>	<p>Ask relevant questions when prompted.</p> <p>Use different types of scientific enquiry to answer them.</p> <p>Set up simple and practical enquiries, comparative and fair tests with some support.</p> <ul style="list-style-type: none"> <li>• <i>I can put forward my own ideas about how to answer a question when prompted.</i></li> <li>• <i>I can use different types of scientific enquiry.</i></li> <li>• <i>With support, I can set up simple enquiries, and comparative and fair tests with support.</i></li> </ul>	<p>Ask relevant questions.</p> <p>Use different types of scientific enquiries to answer their questions.</p> <p>Set up simple and practical enquiries, comparative and fair tests.</p> <ul style="list-style-type: none"> <li>• <i>I can put forward my own ideas about how to answer a question.</i></li> <li>• <i>I can use different types of scientific enquiry.</i></li> <li>• <i>I can set up simple enquiries, and comparative and fair tests with support.</i></li> </ul>	<p>Plan different types of scientific enquiries to answer questions.</p> <p>With prompting, recognise and control variables where necessary.</p> <ul style="list-style-type: none"> <li>• <i>I can plan different types of scientific enquiries to answer questions.</i></li> <li>• <i>With prompting, I can recognise and control variables where necessary.</i></li> </ul>	<p>Plan different types of scientific enquiries to answer questions.</p> <p>Recognise and control variables where necessary.</p> <ul style="list-style-type: none"> <li>• <i>I can plan different types of scientific enquiries to answer questions.</i></li> <li>• <i>I can recognise and control variables where necessary.</i></li> </ul>

<p><b>Do</b></p>	<p>Make relevant observations using simple equipment. Conduct simple tests, with support. Identify and classify with guidance.</p> <ul style="list-style-type: none"> <li>• I can perform simple tests with support.</li> <li>• I can use simple equipment eg; magnifying glass.</li> </ul>	<p>Observe closely, using simple equipment. Perform simple tests. Identify and classify.</p> <ul style="list-style-type: none"> <li>• I can perform simple tests.</li> <li>• I can observe closely.</li> <li>• I can use some scientific vocabulary to explain my observations</li> </ul>	<p>Make systematic and careful observations, using simple equipment. Use standard units when taking measurements.</p> <ul style="list-style-type: none"> <li>• I can make measurements and observations using simple equipment.</li> <li>• I can use standard units when taking measurements.</li> </ul>	<p>Make systematic and careful observations using a range of equipment, including thermometers and data loggers. Take accurate measurements using standard units, where appropriate.</p> <ul style="list-style-type: none"> <li>• I can make measurements and observations using simple equipment to complete a simple graph or chart.</li> <li>• I can take accurate measurements using standard units when appropriate.</li> </ul>	<p>Select, with prompting, and use appropriate equipment to take readings. Take precise measurements using standard units. Begin to understand the need for repeat readings.</p> <ul style="list-style-type: none"> <li>• I can select, with prompting, and use appropriate equipment to take readings.</li> <li>• I can take precise measurements using standard units.</li> <li>• I can begin to understand the need for repeat readings.</li> </ul>	<p>Use a range of scientific equipment to take measurements. Take measurements with increasing accuracy and precision. Take repeat readings when appropriate.</p> <ul style="list-style-type: none"> <li>• I can use a range of scientific equipment to take measurements.</li> <li>• I can take measurements with increasing accuracy and precision.</li> <li>• I can take repeat readings when appropriate.</li> </ul>
<p><b>Record</b></p>	<p>Gather and record data.</p> <ul style="list-style-type: none"> <li>• I can record simple data.</li> </ul>	<p>Record and communicate their findings in a range of ways and begin to use simple scientific language. Gather and record data to help answer questions.</p> <ul style="list-style-type: none"> <li>• I can use simple tables where appropriate, e.g. blocks graphs, pictograms.</li> </ul>	<p>With modelling and guidance, gather, record, classify and present data in a variety of ways to help to answer questions. With prompting, use various ways of recording, grouping and displaying evidence and suggest how findings may be tabulated.</p> <ul style="list-style-type: none"> <li>• With support, I can collect data, record, present and classify data in different ways to answer my questions.</li> <li>• I can use scientific vocabulary to describe my observations.</li> </ul>	<p>Gather, record, classify and present data in a variety of ways to help to answer questions. Record findings using simple scientific language, drawings and labelled diagrams. Record findings using keys, bar charts, and tables.</p> <ul style="list-style-type: none"> <li>• I can collect data, record, present and classify data in different ways to answer my questions.</li> <li>• I can record findings using simple scientific language, drawings and labelled diagrams.</li> <li>• I can record findings using keys, bar charts, and tables.</li> </ul>	<p>Take and process repeat readings, data and results. Record data using labelled diagrams, keys, tables and charts. Use line graphs to record data.</p> <ul style="list-style-type: none"> <li>• I can take and process repeat readings, data and results</li> <li>• I can record data using labelled diagrams, keys, tables and charts.</li> <li>• I can use line graphs to record data.</li> </ul>	<p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar charts and line graphs.</p> <ul style="list-style-type: none"> <li>• I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar charts and line graphs.</li> </ul>
<p><b>Review</b></p>	<p>Recognise findings. Use their observations and ideas to suggest answers to simple questions.</p> <ul style="list-style-type: none"> <li>• With support, I can suggest answers to simple questions.</li> </ul>	<p>Use their observations and ideas to suggest answers to simple questions.</p> <ul style="list-style-type: none"> <li>• I can suggest answers to simple questions.</li> </ul>	<p>With prompting, suggest conclusions from enquiries. Suggest how findings could be reported. Suggest possible improvements or further questions to investigate.</p>	<p>Report on findings from enquiries, including oral and written explanations, of results and conclusions. Report on findings from enquiries using displays or presentations. Identify differences, similarities or changes related</p>	<p>Report and present findings from enquiries, including conclusions and, with prompting, suggest causal relationships. With support, present findings from enquiries orally and in writing. Suggest further comparative or fair tests.</p>	<p>Report and present findings from enquiries, including conclusions and causal relationships. Report and present findings from enquiries in oral and written forms such as displays and other presentation. Report and present findings from enquiries, including</p>

			<ul style="list-style-type: none"> <li>• I give reasons for my observations.</li> <li>• I can provide explanations for patterns. e.g. identify pattern on graph</li> <li>• I can suggest ways of improving my work.</li> </ul>	<p>to simple scientific ideas and processes. Use straightforward scientific evidence to answer questions or to support their findings. Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <ul style="list-style-type: none"> <li>• I can report on findings from enquiries, including oral and written explanations, of results and conclusions.</li> <li>• I can report on findings from enquiries using displays or presentations.</li> <li>• I can identify differences, similarities or changes related to simple scientific ideas and processes.</li> <li>• I can use straightforward scientific evidence to answer questions or to support their findings.</li> <li>• I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>I can report and present findings from enquiries, including conclusions and, with prompting, suggest causal relationships.</i></li> <li>• <i>With support, I can present findings from enquiries orally and in writing.</i></li> <li>• <i>I can suggest further comparative or fair tests.</i></li> </ul>	<p>explanations of, and degree of, trust in results. Identify scientific evidence that has been used to support or refute ideas or arguments. Use test results to make predictions to set up further comparative and fair tests.</p> <ul style="list-style-type: none"> <li>• <i>I can report and present findings from enquiries, including conclusions and causal relationships.</i></li> <li>• <i>I can report and present findings from enquiries in oral and written forms such as displays and other presentations.</i></li> <li>• <i>I can report and present findings from enquiries, including explanations of, and degree of, trust in results.</i></li> <li>• <i>I can identify scientific evidence that has been used to support or refute ideas or arguments.</i></li> <li>• <i>I can use test results to make predictions to set up further comparative and fair tests.</i></li> </ul>
<b>Vocabulary</b>	<p>Questions, answers, equipment, gather, measure, record, results, sort, group, test, explore, observe, compare, describe, similar/ities, different/ces, beaker, pipette, syringe</p>	<p>Previous vocab plus: observe changes over time, notice patterns, secondary sources, hand lenses, egg timers, identify, classify, data,</p>	<p>Previous vocab plus: scientific enquiry changes over time, notice patterns, secondary sources, comparative tests, fair tests, careful, accurate, observations, equipment, gather, measure, record, data, evidence, results, keys, bar charts, table, results, conclusions, predictions, support, thermometers</p>	<p>Previous vocab plus: enquiry types increase, decrease, identify, classify, order, notice patterns, relationships, appearance, present results, data loggers</p>	<p>Previous vocab plus: notice patterns, relationships, independent variable, dependent variable, controlled variable, accuracy, precision, degree of trust, classification keys, scatter graphs, line graphs, causal relationships, support/refute, data loggers</p>	<p>Previous vocab plus: opinion/fact, confidently name scientific enquiry types</p>