

## <u>Thames View Primary School</u> <u>Scientific Skills Progression</u>

Progression in Science Skills	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Planning	<ul> <li>ask simple questions and recognise they can be answered in different ways</li> </ul>	<ul> <li>ask a range of simple questions and recognise they can be answered in different ways</li> </ul>	<ul> <li>raise their own questions about the world around them</li> </ul>	<ul> <li>raise their own questions about the world around them based on scientific experiences</li> </ul>	<ul> <li>plan different types of enquiry to answer questions</li> </ul>	<ul> <li>plan different types of enquiry to answer questions</li> </ul>
Communication	<ul> <li>draw simple pictures</li> <li>talk about what they see and do</li> <li>identify key features</li> <li>use simple charts to communicate findings</li> </ul>	<ul> <li>suggest how to find things out</li> <li>identify key features</li> <li>describe their observations using some scientific vocabulary</li> </ul>	<ul> <li>use pictures, writing, diagrams and tables as directed by their teacher</li> <li>record their observations in written, pictorial and diagrammatic forms</li> <li>select the appropriate format to record their observations</li> <li>communicate findings in ways that are appropriate for different audiences</li> </ul>	<ul> <li>record observations, comparisons and measurements using tables and bar charts</li> <li>begin to plot points to form a simple graph</li> <li>use graphs to point out and interpret patterns in their data</li> <li>communicate findings in ways that are appropriate for different audiences</li> </ul>	<ul> <li>record observations systematically</li> <li>use appropriate scientific language and conventions to communicate quantitative and qualitative data</li> </ul>	use appropriate ways to communicate quantitative data using scientific language

Progression in Science Skills	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Sources	<ul> <li>begin to use simple secondary sources to find answers</li> </ul>	<ul> <li>use a range of simple texts and other secondary sources to find information and answers</li> </ul>	<ul> <li>use simple texts, directed by the teacher, to find information</li> <li>begin to recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations</li> </ul>	<ul> <li>select information from a range of sources provided for them</li> <li>recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations</li> </ul>	<ul> <li>select a range of appropriate sources of information including books, internet etc</li> <li>recognise when secondary sources will be most useful to research their ideas</li> <li>begin to separate opinion from fact.</li> </ul>	<ul> <li>recognise when secondary sources will be most useful to research their ideas</li> <li>begin to separate opinion from fact.</li> </ul>
Enquiring	<ul> <li>say what they think will happen</li> <li>begin to compare some living things</li> </ul>	<ul> <li>use simple equipment provided to aid observation</li> <li>compare objects, living things or events</li> </ul>	<ul> <li>put forward own ideas about the most appropriate type of scientific enquiry to find the answers to questions</li> <li>recognise the need to collect data to answer questions</li> </ul>	<ul> <li>decide on an most appropriate scientific approach in their own investigations to answer questions</li> </ul>	<ul> <li>use previous knowledge and experience combined with experimental evidence to provide scientific explanations</li> </ul>	<ul> <li>describe evidence for a scientific idea</li> <li>use scientific knowledge to identify an approach for an investigation</li> </ul>
Testing	<ul> <li>carry out simple tests on ideas suggested to them</li> </ul>	<ul> <li>carry out a simple test</li> </ul>	<ul> <li>carry out simple test with guidance, based on own ideas</li> </ul>	<ul> <li>show in the way they perform their tasks how to vary one factor while keeping others the same</li> </ul>	<ul> <li>carry out investigation/test according to a plan</li> </ul>	<ul> <li>carry out investigation/test according to the plan</li> </ul>
Obtaining Evidence	<ul> <li>observe what happens using their senses</li> </ul>	<ul> <li>make observations relevant to their task</li> <li>begin to recognise when a test or comparison is unfair</li> </ul>	<ul> <li>recognise when as simple fair test is necessary</li> <li>carry out a fair test with support</li> <li>recognise and explain why it is a fair test</li> </ul>	<ul> <li>recognise when as simple fair test is necessary</li> <li>describe which factors they are varying and which will remain the same and say why</li> </ul>	<ul> <li>recognise the key factors to be considered in carrying out a fair test</li> <li>begin to recognise and control variables where necessary</li> </ul>	<ul> <li>recognise and control variables where necessary</li> </ul>

Progression in Science Skills	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Presenting Evidence	<ul> <li>use first hand experiences to answer questions</li> </ul>	<ul> <li>use first hand experiences to answer questions</li> </ul>	<ul> <li>with help, pupils begin to realise that scientific ideas are based on evidence</li> </ul>	<ul> <li>with help, pupils begin to realise that scientific ideas are based on evidence</li> </ul>	<ul> <li>decide on the best way to present the evidence gathered</li> </ul>	<ul> <li>explain how the interpretation leads to new ideas</li> </ul>
Observing	<ul> <li>make close observations using appropriate senses</li> <li>begin to use simple scientific language</li> <li>use simple, provided equipment</li> </ul>	<ul> <li>respond to questions asked by the teacher</li> <li>suggest how they could collect data to answer questions</li> <li>begin to select equipment from a limited range</li> <li>observe closely, collect and record data (supported by the teacher)</li> <li>use simple, scientific language</li> </ul>	<ul> <li>help to make decisions about what observations to make and how long to make them for</li> <li>make relevant and careful observations and ask further simple questions based on these</li> <li>collect data from their own observations and measurements</li> <li>measure using given equipment</li> <li>measure using standard units</li> <li>select equipment from a limited range</li> <li>learn how to use new and relevant equipment, such as thermometers and data loggers appropriately.</li> <li>begin to use relevant scientific language to discuss their ideas</li> </ul>	<ul> <li>help to make decisions about what observations to make and how long to make them for</li> <li>carry out measurements accurately</li> <li>make a series of observations, comparisons and measurements</li> <li>select and use suitable equipment</li> <li>make a series of systematic and careful observations and measurements adequate for the task</li> <li>measure using standard units</li> <li>learn how to use new and relevant equipment, such as thermometers and data loggers appropriately.</li> <li>use relevant scientific language to discuss their ideas</li> </ul>	<ul> <li>make own decisions about what observations to make, what measurements to use, and how long make them for</li> <li>make a series of observations and comparisons</li> <li>select most appropriate apparatus for a range of tasks</li> <li>plan to use apparatus effectively</li> <li>take measurements using a range of scientific equipment with increasing accuracy and precision</li> <li>begin to make repeat observations and measurements systematically</li> </ul>	<ul> <li>make own decisions about what observations to make, what measurements to use, and how long make them for</li> <li>make a series of observations and comparisons</li> <li>select most appropriate apparatus for a range of tasks</li> <li>take measurements using a range of scientific equipment with increasing accuracy</li> <li>measure quantities with precision using fine – scale divisions</li> <li>select and use information effectively</li> <li>make enough measurements or observations for the required task</li> </ul>

Progression in	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Considering Evidence	<ul> <li>say what has happened, what they have found out and how they found it out</li> <li>say whether what has happened was what they expected</li> </ul>	<ul> <li>say what has happened, what they have found out and how they found it out</li> <li>say what their observations show and whether it was what they expected</li> </ul>	<ul> <li>begin to offer explanations for what they see and communicate in a scientific way what they have found out</li> <li>begin to make decisions as to how to analyse the data</li> <li>begin to look for patterns and decide what data to collect to identify them</li> </ul>	<ul> <li>predict outcomes using previous experience and knowledge and compare with actual results</li> <li>make decisions as to how to analyse the data</li> <li>look for patterns and decide what data to collect to identify them</li> </ul>	<ul> <li>make predictions based on their scientific knowledge and understanding</li> <li>draw conclusions that are consistent with the evidence</li> <li>relate evidence to scientific knowledge and understanding</li> <li>offer simple explanations for any differences in their results</li> <li>identify scientific evidence that has been used to support or refute ideas or arguments</li> </ul>	<ul> <li>make reasoned suggestions on how to improve working methods</li> <li>show how interpretation of evidence leads to new ideas</li> <li>explain conclusions, showing understanding of scientific ideas</li> <li>identify scientific evidence that has been used to support or refute ideas or arguments</li> <li>identify measurements and observations which do not fit into the main pattern</li> <li>begin to explain anomalous data</li> </ul>

Progression in	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Science Skills Evaluating	<ul> <li>use observations and ideas to suggest answers to questions.</li> <li>make simple comparisons and groupings (classify)</li> <li>begin to notice patterns and relationships in observations</li> </ul>	<ul> <li>begin to draw simple conclusions and explain what they did</li> <li>use observations and ideas to suggest answers to questions</li> <li>group and classify the results</li> <li>notice patterns and relationships in observations</li> <li>begin to suggest improvements in their work</li> </ul>	<ul> <li>With support, they should identify new questions arising from the data, making predictions for new values within or beyond the data they have collected</li> <li>find ways to improve what they have already done evaluate their findings</li> <li>With support, look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions</li> <li>talk about the criteria for grouping</li> </ul>	<ul> <li>begin to relate their conclusions to scientific knowledge and understanding</li> <li>identify new questions arising from the data, making predictions for new values within or beyond the data they have collected</li> <li>suggest improvements in their work, giving reasons</li> <li>find ways to improve what they have already done</li> <li>look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions</li> <li>talk about the criteria for grouping, sorting and classifying</li> </ul>	<ul> <li>make practical suggestions about how working methods could be improved</li> <li>use results to identify when further tests and observations might be needed</li> <li>begin to use test results to make predictions to set up further comparative and fair test</li> <li>use simple models to describe scientific ideas</li> </ul>	<ul> <li>use test results to make predictions to set up further comparative and fair test</li> <li>use simple models to describe scientific ideas</li> <li>use results to identify when further tests and observations might be needed</li> </ul>