

### KS3 Assessment Rubric – SCIENCE – HOW SCIENCE WORKS

#### Year 7

Working Towards Age Expectations	Working At Age Expectations	Working Above Age Expectations
<ul style="list-style-type: none"> <li>• Pupils respond to suggestions and put forward their own ideas about how to investigate an idea or find answers to questions.</li> <li>• They recognise why it is important to collect data to investigate ideas and answer questions, and use texts to find information.</li> <li>• They begin to recognise risks with help. They make relevant observations and measure quantities, such as length or mass, selecting and using a range of simple equipment.</li> <li>• They carry out fair tests with some help, recognising and explaining what makes them fair.</li> <li>• They record findings in a variety of ways, including tables or charts.</li> <li>• They give explanations for observations and for patterns in measurements they have made and recorded.</li> <li>• They communicate in a scientific way what they have found out and suggest improvements in their work.</li> </ul>	<ul style="list-style-type: none"> <li>• Pupils decide on an appropriate approach, including using a fair test to answer a question, and select suitable equipment and information from that provided.</li> <li>• They select and use methods that are adequate for the task. Following instructions, they take action to control obvious risks to themselves.</li> <li>• They make a series of observations and measurements and vary one factor while keeping others the same.</li> <li>• They record their observations, comparisons and measurements using tables and bar charts and begin to plot points to form simple graphs.</li> <li>• They interpret data containing positive and negative numbers. They begin to relate their conclusions to patterns in data, including graphs, and to scientific knowledge and understanding.</li> <li>• They communicate their conclusions using appropriate scientific language. They suggest improvements in their work, giving reasons.</li> </ul>	<ul style="list-style-type: none"> <li>• Pupils decide appropriate approaches to a range of tasks, including selecting sources of information and apparatus.</li> <li>• They select and use methods to obtain data systematically.</li> <li>• They recognise hazard symbols and make, and act on, simple suggestions to control obvious risks to themselves and others.</li> <li>• They use line graphs to present data, interpret numerical data and draw conclusions from them.</li> <li>• They analyse findings to draw scientific conclusions that are consistent with the evidence.</li> <li>• They communicate these using scientific and mathematical conventions and terminology.</li> <li>• They evaluate their working methods to make practical suggestions for improvements.</li> </ul>

## Year 8

Working Towards Age Expectations	Working At Age Expectations	Working Above Age Expectations
<ul style="list-style-type: none"> <li>• Pupils decide on an appropriate approach, including using a fair test to answer a question, and select suitable equipment and information from that provided.</li> <li>• They select and use methods that are adequate for the task. Following instructions, they take action to control obvious risks to themselves.</li> <li>• They make a series of observations and measurements and vary one factor while keeping others the same.</li> <li>• They record their observations, comparisons and measurements using tables and bar charts and begin to plot points to form simple graphs.</li> <li>• They interpret data containing positive and negative numbers. They begin to relate their conclusions to patterns in data, including graphs, and to scientific knowledge and understanding.</li> <li>• They communicate their conclusions using appropriate scientific language. They suggest improvements in their work, giving reasons.</li> </ul>	<ul style="list-style-type: none"> <li>• Pupils decide appropriate approaches to a range of tasks, including selecting sources of information and apparatus.</li> <li>• They select and use methods to obtain data systematically.</li> <li>• They recognise hazard symbols and make, and act on, simple suggestions to control obvious risks to themselves and others.</li> <li>• They use line graphs to present data, interpret numerical data and draw conclusions from them.</li> <li>• They analyse findings to draw scientific conclusions that are consistent with the evidence.</li> <li>• They communicate these using scientific and mathematical conventions and terminology.</li> <li>• They evaluate their working methods to make practical suggestions for improvements.</li> </ul>	<ul style="list-style-type: none"> <li>• Pupils identify an appropriate approach in investigatory work, selecting and using sources of information, scientific knowledge and understanding.</li> <li>• They select and use methods to collect adequate data for the task, measuring with precision, using instruments with fine scale divisions, and identify the need to repeat measurements and observations.</li> <li>• They recognise a range of familiar risks and take action to control them. They record data and features effectively, choosing scales for graphs and diagrams.</li> <li>• They analyse findings to draw conclusions that are consistent with the evidence and use scientific knowledge and understanding to explain them and account for any inconsistencies in the evidence.</li> <li>• They manipulate numerical data to make valid comparisons and draw valid conclusions.</li> <li>• They communicate qualitative and quantitative data effectively, using scientific conventions and terminology.</li> <li>• They evaluate evidence, making reasoned suggestions about how their working methods could be improved.</li> </ul>

**Year 9**

Working Towards Age Expectations	Working At Age Expectations	Working Above Age Expectations
<ul style="list-style-type: none"> <li>• Pupils decide appropriate approaches to a range of tasks, including selecting sources of information and apparatus.</li> <li>• They select and use methods to obtain data systematically.</li> <li>• They recognise hazard symbols and make, and act on, simple suggestions to control obvious risks to themselves and others.</li> <li>• They use line graphs to present data, interpret numerical data and draw conclusions from them.</li> <li>• They analyse findings to draw scientific conclusions that are consistent with the evidence.</li> <li>• They communicate these using scientific and mathematical conventions and terminology.</li> <li>• They evaluate their working methods to make practical suggestions for improvements.</li> </ul>	<ul style="list-style-type: none"> <li>• Pupils identify an appropriate approach in investigatory work, selecting and using sources of information, scientific knowledge and understanding.</li> <li>• They select and use methods to collect adequate data for the task, measuring with precision, using instruments with fine scale divisions, and identify the need to repeat measurements and observations.</li> <li>• They recognise a range of familiar risks and take action to control them. They record data and features effectively, choosing scales for graphs and diagrams.</li> <li>• They analyse findings to draw conclusions that are consistent with the evidence and use scientific knowledge and understanding to explain them and account for any inconsistencies in the evidence.</li> <li>• They manipulate numerical data to make valid comparisons and draw valid conclusions.</li> <li>• They communicate qualitative and quantitative data effectively, using scientific conventions and terminology.</li> <li>• They evaluate evidence, making reasoned suggestions about how their working methods could be improved.</li> </ul>	<ul style="list-style-type: none"> <li>• Pupils plan appropriate approaches and procedures, by synthesising information from a range of sources and identifying key factors in complex contexts and in which variables cannot readily be controlled.</li> <li>• They select and use methods to obtain reliable data, including making systematic observations and measurements with precision, using a range of apparatus.</li> <li>• They recognise the need for a risk assessment and consult appropriate sources of information, which they follow.</li> <li>• They record data in graphs, using lines of best fit.</li> <li>• They analyse findings to draw conclusions that are consistent with the evidence and use scientific knowledge and understanding to explain these conclusions and identify possible limitations in primary and secondary data.</li> <li>• They use quantitative relationships between variables. They communicate effectively, using a wide range of scientific and technical conventions and terminology, including symbols and flow diagrams.</li> <li>• They begin to consider whether the data they have collected are sufficient for the conclusions they have drawn.</li> </ul>