

Progression grid for Science – Working Scientifically

EYFS	Y1	Y2	Y3	Y4	Y5	Y6
<p>Three characteristics of effective teaching and learning are:</p> <p>Playing and exploring – children investigate and experience things, and ‘have a go’</p> <p>Active learning – children concentrate and keep on trying if they encounter difficulties, and enjoy achievements</p> <p>Creating and thinking critically – children have and develop their own ideas, make links between ideas, and develop strategies for doing things.</p> <p>These skills are the building blocks for working scientifically.</p>	<p>Ask simple questions recognising that they can be answered in different ways</p> <p>Observe closely, using simple equipment</p> <p>Perform simple tests</p> <p>Identify and classify</p> <p>Use observations and ideas to suggest answers to questions, gather and record data to help in answering questions</p>		<p>Asking relevant questions and using different types of scientific enquiries to answer them</p> <p>Setting up simple practical enquiries, comparative and fair tests</p> <p>Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <p>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</p> <p>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p> <p>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</p> <p>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions identifying differences, similarities or changes related to simple scientific ideas and processes</p> <p>Using straightforward scientific evidence to answer questions or to support their findings</p>			<p>Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</p> <p>Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</p> <p>Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p> <p>Using test results to make predictions to set up further comparative and fair tests</p> <p>Reporting and presenting 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</p> <p>Identifying scientific evidence that has been used to support or refute ideas or arguments</p>



EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Vocabulary						
Explore, change, same, different, 'I think that', why, what, when, what will happen if, how, and further questioning words.	Fair test, measure, equipment, test, observe, results	Identify, classify, compare, variable	Enquiry, careful, classify, represent, diagram, key, conclusion, prediction, method, evidence	Control, systematic	Independent variable, dependent variable, control variables	average



Our teaching of Working Scientifically in Science supports our delivery of the statistics element of our maths curriculum, provided below. Presentation of data is in line with national curriculum expectations and/or appropriate to present findings from the enquiry in question.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Statistics: Present and Interpret		<ul style="list-style-type: none"> interpret and construct simple pictograms, tally charts, block diagrams and simple tables <p style="text-align: center;">Spring 2</p>	<ul style="list-style-type: none"> interpret and present data using bar charts, pictograms and tables <p style="text-align: center;">Spring 3</p>	<ul style="list-style-type: none"> interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs <p style="text-align: center;">Summer 4</p>	<ul style="list-style-type: none"> complete, read and interpret information in tables, including timetables <p style="text-align: center;">Autumn 3</p>	<ul style="list-style-type: none"> interpret and construct pie charts and line graphs and use these to solve problems <p style="text-align: center;">Summer 3</p>
Statistics: Solve Problems		<ul style="list-style-type: none"> ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity ask and answer questions about totalling and comparing categorical data <p style="text-align: center;">Spring 2</p>	<ul style="list-style-type: none"> solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables <p style="text-align: center;">Spring 3</p>	<ul style="list-style-type: none"> solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs <p style="text-align: center;">Summer 4</p>	<ul style="list-style-type: none"> solve comparison, sum and difference problems using information presented in a line graph <p style="text-align: center;">Autumn 3</p>	<ul style="list-style-type: none"> calculate and interpret the mean as an average <p style="text-align: center;">Summer 3</p>