

PROGRESSION ACROSS STRANDS

Strands	Key Stage 1 outcomes	Working Scientifically Objective	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Prediction	To be encouraged to be curious and ask questions about what they notice.	Using results to make predictions for new values – Lower KS2 Using test results to make predictions to set up further comparative and fair tests – Upper KS2	To understand what a prediction is and why they are used in science. To begin to make simple predictions.	To make simple predictions justified by their scientific understanding.	To make predictions based on sound scientific understanding and reasoning. To reflect on and evaluate the predictions made by others.	Use test results to make further predictions to set up further comparative and fair tests.
Conclusion	To begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways.	Lower KS2- Presentations of results and conclusions - Using results to draw simple conclusions Reporting on finding from enquiries, including oral and written explanations, displays and presentations of results and conclusions. Upper KS2-Reporting and presenting findings from enquiries, including causal relationships and validity of results in conclusions	To draw and articulate simple conclusions from their own scientific enquiries.	To use their results from scientific enquiry to write conclusions.	To write increasingly accurate conclusions, explaining what their results show and suggesting why they may have shown this.	To write increasingly accurate conclusions explaining what their results show and justify why they may have shown this with reference to evidence. To evaluate the degree of trust in results.
Scientific enquiry	Asking simple questions and recognising that they can be answered in different ways.	Lower KS2- setting up simple, practical enquiry, comparative and fair tests Asking relevant questions and using different types of scientific enquiries to answer them. Using straight forward scientific evidence to answer questions or to support their findings. Upper KS2- Planning different types of scientific enquiries, answer questions, including recognising and controlling variables when necessary.	To begin to understand what a fair test is and why it is important. To begin to reflect on why their tests are or are not fair. To pose their own questions for investigations.	To identify when a test is not fair and suggest ways to make them fair. To justify their reasoning for posing questions.	To discuss the accuracy and effectiveness of their scientific enquiries and propose future changes based on this.	To evaluate the accuracy and effectiveness of their scientific enquiries and propose future changes based on this.
Observation	Observe closely using simple equipment Using ideas and observations to suggest answers to questions	Lower KS2- Making systematic and careful observations and where appropriate taking accurate measurements using standard units using a range of equipment including thermometers and data loggers.	To take simple measurements. To make simple observations.	To take measurements using a range of equipment including thermometers and data loggers. To make systematic and careful observations.	To recognise variables and begin to identify them within an investigation. To make observations based on scientific evidence.	To take accurate measurements using a range of scientific equipment, taking repeated readings when appropriate. To use scientific evidence to justify observations.

		Upper KS2- Taking measurements using a range of scientific equipment, with increasing accuracy and precision, taking repeat reading when appropriate.				
Data	<p>Performing simple tests</p> <p>Gathering and recording data to help in answering questions</p>	<p>Lower KS2- Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.</p> <p>Upper KS2- Recording data and results of increasing complexity using scientific diagrams and labels, classifications keys, tables, scatter graphs, bar and line graphs. Using data to support or refute ideas or arguments.</p>	<p>To begin to take their own measurement using a range of scientific equipment including rulers.</p> <p>To being to draw bar charts, Venn diagrams and tables and discuss why they have chosen to show data in this way.</p> <p>To begin to discuss patterns in data and suggest why these might occur.</p>	<p>To take their own measurements with increasing accuracy using a range of scientific equipment including; data loggers, thermometers, scales and meter sticks.</p> <p>To draw tally charts and label diagrams with increasing accuracy and describe what these charts show.</p> <p>Make simple inferences and deductions about why patterns occur.</p>	<p>Take increasing accurate measurements using a range of scientific equipment including: stop watches and Newton meters.</p> <p>To discuss the reliability of results and suggest changes to ensure they are more reliable in the future.</p> <p>To accurately draw line graphs.</p> <p>To describe bar and line graphs including trends in data and outliers.</p>	<p>To take accurate measurements using a range of scientific equipment including: measuring tapes and pulse monitors.</p> <p>To identify where, when and why repeated measurements are needed.</p> <p>To draw and interpret bar charts, line graphs and scatter graphs.</p> <p>To explain and interpret trends in data from a variety of graphs and tables.</p> <p>To identify and use the most suitable type of graph to use for a set of data.</p>
Identifying and classifying	<p>Identify and classify</p> <ul style="list-style-type: none"> - Plants - Animals including humans - Everyday materials - Seasonal changes 	<p>Lower KS2- Identifying differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Upper KS2- Identifying scientific evidence that has been used to support or refute ideas or arguments.</p>	To draw simple classification keys and scientific diagrams.	To accurately draw classification keys and scientific diagrams.	To use classification keys for new or hypothetical creatures and plants based on deduction and inference.	To accurately draw and use classification keys.
Vocabulary	Questions, observation, observing, equipment, tests, identifying, classifying, suggest, gathering, recording, data, compare, patterns, and relationships.		Relevant, scientific enquiries, practical, comparative, fair test, systematic observations, accurate measurements, scientific language, drawings, labelled diagrams, keys, graphs, conclusions, predictions, improvements, similarities and differences, findings.		Variables, accuracy, precision, repeated readings, scatter graphs, relationships, degree of trust, refute ideas or arguments, justify.	

