KS2 Science – Working Scientifically Skills progression

KS2 Statutory objectives

During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

Asking relevant questions and using different types of scientific enquiries to answer them. Setting up simple practical enquiries, comparative and fair tests. Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. 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. Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. 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. Using straightforward scientific evidence to answer questions or to support their findings.

	KS2 Progression of skills	
	Y3	**Y4**
Observation & Conclusion	• Choose what observations to make • Know that questions can be answered in different ways • Compare what happened to what might have happened and give simple explanations • Make a precise series of observations and measurements • Classify simple features –flower, tree • Examine closely and question what is seen	• Make systematic and careful observations and comparisons • Compare observations over time • Categorise observations • Begin to make theories • Provide explanations using scientific language • Use precise scientific language • Ask relevant questions
Enquiry, Prediction, Testing	• Identify features of a fair test and carry out a fair test with help • Think of questions to ask during testing • Decide on approaches to answer questions and suggest own ideas • Select suitable equipment • Suggest improvements in their work • Predict before testing • Begin to repeat observations and measurements	• Decide on the best approaches for enquiry • Make predictions based on scientific knowledge • Describe or show how to vary a factor and keep others the same • Repeat tests and explain difference • Review work and check predictions • Suggest improvements giving reasons
Data Collection	• Use books and other sources of information • Begin to suggest ways to collect data • Recognise the importance of data collection • Make suggestions about how to collect data • Use graphs to find and interpret patterns	• Recognise the importance of the evidence collected • Compare and identify data patterns • Select from a range of sources • Question others about their work • Know the work of some scientists • Count and measure quantities accurately • Use sources of information to analyse
Recording	• Record and label sketches and diagrams, sometimes with notes • Use ICT to record results • Begin to plot points for simple graphs	• Use a range of scientific conventions • Understand and begin to use both quantitative and qualitative data • Record and present data in a variety of ways – tables, bar charts, line