Stockton on the Forest Primary School

Progression Ladder: **Science** Children can...

	OBSERVATION AND CONCLUSION	ENQUIRY, PREDICTION, TESTING	DATA COLLECTION	RECORDING
Reception	Make simple observations Explore the natural world around them, making observations Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter	Enjoy finding out about things	Join in – e.g. leaf collections	Draw what interests them
Year 1	Make observations Talk simply about what they see Answer simple questions about what they see Describe simple features with simple vocabulary– parts of the body, a tree Observe closely using simple equipment to help them – e.g. magnifying glass	Perform simple tests using simple equipment – e.g. a timer Talk about some reasons why things might happen, or why something has happened Understand basic safety rules when testing out their ideas	Recognise that scientific ideas are more than guesses, and based on evidence Collect data when asked – e.g. a weather station Count data sets – trees in a field Sort data within given criteria – tall trees, wet days, blue eyes Remember and recall information Underline important facts	Record what they have seen or done in different ways, including drawing and labelled diagrams Record some information onto a pre prepared chart Label objects according to simple criteria Record things they have seen or done from memory
Year 2	Answer questions using evidence Ask questions about what they see Make relevant observations Give simple reasons and explanations for what they have seen Identify simple parts of what they see – e.g. petal, leg	Find things out, with help and suggestions Begin to make predictions about what might happen Understand key factors that make a fair test Use simple apparatus effectively and safely	Gather and record data to help in answering questions and understand why this is important Use tallies to count in surveys Use books to find information	Begin to use cause and effect in their explanations, and some scientific vocabulary Use simple tables and charts Identify, classify and use bulleted lists Make sketches of their observations Use line graphs to present their findings
Year 3	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	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	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	Record and label sketches and diagrams, sometimes with notes Use ICT to record results Begin to plot points for simple graphs Record systematically Record a series of observations in different ways

Year 4	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	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	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	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 graphs Order results scientifically
Year 5	Begin to relate conclusions to patterns, previous knowledge and observational evidence Make judgements and conclusions about what has been seen, and support these with known facts Justify their own theories through observation and conclusion Use straightforward scientific evidence to answer questions or support findings	Offer explanations for differences Modify tests for accuracy Plan different types of scientific enquiries to answer questions Recognise and control variables Make practical suggestions about working methods and improvements Use results to draw simple conclusions, make predictions for new values, suggest improvements Develop further observations and experiments from results	Gather and classify data in a variety of ways Distinguish and discriminate between different elements of data	Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
Year 6	Evaluate the results of observations Combine observations to give new hypotheses Look for and understand poor data Identify differences, similarities or changes related to simple scientific ideas and processes	Use a range of scientific enquiry to answer questions Use test results to make predictions and to set up further comparative and fair tests	Identify scientific evidence that has been used to support or refute ideas or arguments. Take accurate measurements using a range of equipment, including thermometers, with increasing accuracy and precision Repeat readings when appropriate	Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results