

Marshlands Primary School Science Progression of Skills – 2020 onwards

	KS1	Lower KS2	Upper KS2
Asking Questions	- ask questions (such as what something is, how things are similar and different, how things work, which is better, how things change and how things happen) - answer questions developed with the teacher, often through a scenario - take part in planning how to use resources provided to answer questions – including recognising that there may be different ways to answer a question	- consider prior knowledge when asking questions, independently using a range of question stems - answer questions posed by the teacher - start to decide for themselves, when given a range of resources, how to gather evidence to answer a question - discuss use of secondary sources	- independently ask scientific questions based on scientific experiences - decide how to answer a scientific question, choosing a type of enquiry to carry out and justifying this choice - recognise when to use secondary sources
Observing & Measuring	- make careful observations to identify, compare and notice change, using appropriate senses and aided by basic equipment - take measurements by comparisons and using non-standard units	- make systematic and careful observations - use a range of equipment to measure length, time, temperature and capacity, using standard units	- select measuring equipment to give the most precise results - make decisions on whether to repeat readings, increase sample size, adjust observation period or check further secondary sources
Investigating	- use practical resources provided to gather evidence to answer questions - carry out tests to classify, comparative tests, pattern seeking enquiries and observations over time - use observations and testing to compare objects, material and living things, sorting and grouping using their own criteria - use simple secondary sources (such as identification sheets) to name living things, describing the characteristics they used	- select from a range of practical resources to gather evidence - follow a plan to carry out observations and tests to classify, comparative and simple fair tests, observations over time and pattern seeking	- select from a range of practical resources to gather evidence - carry out fair tests, recognising and controlling variables - make decisions on what observations or measurements to make over time and for how long, looking for patterns and relationships when using a suitable sample
Recording & Presenting Results	- record observations (photographs, videos, drawings, labelled diagrams, writing) - record measurements (prepared tables, pictograms, tally charts, block graphs) - classify using simple prepared tables and sorting rings	- start to make decisions on how to record and present evidence - record observations (photographs, videos, pictures, labelled diagrams, writing) - record measurements (tables, tally charts, bar charts) using templates so they can add their own headings - record classifications (tables, Venn diagrams, Carroll diagrams) - with support, present the same data in different ways	- make decisions on how to record and present evidence - record observations (annotated photographs, videos, labelled diagrams, observational drawings, labelled scientific diagrams, writing) - record measurements (tables, tally charts, bar charts, line graphs, scatter graphs) - record classifications (tables, Venn diagrams, Carroll diagrams, classification keys) - present the same data in different ways

Answering Questions & Concluding	• use experiences of the world to suggest appropriate answers to questions • with support, relate their answers to evidence • recognise 'biggest and smallest', 'best and worst' from their data	• answer questions, consistent with evidence based on observations they have made, measurements they have taken or information gained from secondary sources • interpret their data to generate simple comparative statements based on their evidence, beginning to identify naturally occurring patterns and causal relationships • draw conclusions based on their evidence and current subject knowledge	• answer questions based on observations they have made, measurements they have taken or information gained from secondary sources, discussing whether other evidence supports or refutes their answer • talk about how their scientific ideas change due to new evidence • talk about how new discoveries change scientific understanding • in conclusions, identify causal relationships and patterns in the natural world from their evidence • begin to identify results that do not fit the overall pattern • explain findings using their subject knowledge
Evaluating & Making Further Predictions	•	• identify ways in which they adapted their method as they progressed • recognise how they would investigate differently if they repeated the enquiry • use evidence to suggest values for different items tested using the same method • ask further questions which could be answered by extending the same enquiry	• evaluate the choice of the method used, the control of variables, the precision and accuracy of measurements and the credibility of secondary sources • identify any limitations that reduce the trust they have in their data • use scientific knowledge gained to make predictions they can investigate using comparative and fair tests
Communicating Findings	•	• communicate findings both orally and in writing, using appropriate scientific vocabulary	• communicate findings using relevant scientific language and illustrations