Progression of working scientifically

Years 1 and 2	Years 3 and 4	Year 5 and 6
Ask simple questions and recognise that they can be answered in different ways. Observe closely, using simple equipment. Perform simple tests. Identify and classify. Use their observations and ideas to suggest answers to questions. Gather and recording data to help in answering questions.	Ask relevant questions and use different types of scientific enquiries to answer them Set up simple practical enquiries, comparative and fair tests Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers Gather, record, classify and present data in a variety of ways to help in answering questions 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 Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Identify differences, similarities or changes related to simple scientific ideas and processes Use straightforward scientific evidence to answer questions or to support their findings.	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking 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. Use test results to make predictions to set up further comparative and fair tests. Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. Identify scientific evidence that has been used to support or refute ideas or arguments.

Progression of working scientifically

Year group	Expectations
EYFS	Using vocabulary related to the senses (basic comparative language) Being curious about the world around them, Looking at before and after. Making connections – cause and effect looking at what happens when…… The introduction of basic equipment (magnifying glass, two way viewers) and learning how to use these, (exploring)
Year 1	Working with non-standard measures e.g cubes. Linking science words to observe e.g longer than, shorter than. To use the same equipment as FS but introduce choice. What will you use to……. Expectation that they name what they observing e.g name the type of wood, fabric etc. Children should be able to specifically name the different types of materials.
Year 2	As year 1 but building on the scientific vocabulary introduced and move on to working with standard measure. When recording they observe to record in different ways including tables, photos etc.
Year 3	Applying skills from year 2 to make more focused observations and be able to explain what they are looking for. Introduce a systematic approach – observe and record measurements. Progress to make choices in terms of equipment being used ad ways of recording. Language of stand measure to be used.
Year 4	Children are confident in deciding what to observe and use accurate measurements. (data loggers) They make choices about ways in which they record observations including computing skills, phots, video etc. Which type of recording and measurements are suitable for my observation?
Year 5	Appling skills from year 4 but introduce the degree of trust. Children should be asking are my observations trustworthy? Do I need to repeat and collect more data?
Year 6	Children should share their results and make decision about ways of presenting their findings. Questions with opportunities to measure should be planned for. Data collection to become more complex e.g line graphs, and the degree of trust embedded where children know when data is to be repeated to draw more reliable conclusions.