Working Scientifically Skills Progression Map

Working Scientifically Skill	KS1	Year 3	Year 4	Year 5	Year 6
Ask Questions	Ask simple questions and recognise that they can be answered in different ways.	Ask questions and understand there are different enquiry types they could use to answer them.	Ask relevant questions and use different types of scientific enquiry to answer them.	Ask scientific questions and begin to understand which questions would be best suited to each enquiry type.	Ask relevant scientific questions and choose which enquiry type would be best suited to answer them.
Planning an enquiry	Verbally state what they are going to investigate. Make simple predictions based on a question. Identify what they will change and keep the same.	Make relevant predictions. Identify what they will change, observe, and keep the same. With support, set up simple practical enquiries.	Make predictions based on simple scientific knowledge. Identify what they will change, observe, or measure and keep the same. Set up simple practical enquiries, comparative, and fair tests.	Make predictions based on scientific knowledge. With support, plan different types of scientific enquiry. Where appropriate, identify the dependent, independent, and controlled variables.	Make predictions based on scientific knowledge. Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
Make observations	Observe closely using simple equipment.	Begin to use scientific equipment make observations.	Make systematic and careful observations.	Use a range of scientific equipment to make systematic and careful observations.	Use a range of scientific equipment to make systematic and careful observations with increased complexity.
Take measurements	Carry out simple tests using non-standard measurements when appropriate.	Perform simple tests using standard units when appropriate.	Carry out tests and simple experiments and take measurements using standard units.	Take accurate measurements using standard units using a range of equipment including thermometers and loggers.	Take measurements using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.

Gather, record, and classify data	**Gather and record simple data to help answer questions. Sort objects into groups based on simple properties. Identifying and classifying.**	**Gather and record data in different ways to help answer questions. Recording findings using simple scientific language, drawing, labelled diagrams, bar charts and tables.**	**Gather, record, and classify data in a variety of ways to help in answering questions. Record findings sing simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.**	**Gather, record, and classify data with increasing complexity to help in answering questions. Record data using scientific diagrams and labels, classification keys, tables, bar, and line graphs.**	**Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar, and line graphs.**
Present findings	**Explain what they found out to an adult or partner. Talk about what they have found out and how they found out.**	**Report on findings from enquiries including oral and written explanations.**	**Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.**	**Report and present findings from enquiries, including conclusions. Begin to identify causal relationships in oral and written forms such as displays and other presentations.**	**Report and present findings from enquiries, including conclusions, causal relationships, and explanations of trust in results, in oral and written forms such as displays and other presentations.**
Answer questions and make conclusions	**Answer simple questions. Use their observations and ideas to suggest answers to questions.**	**Make simple conclusions. Use results, findings, or observations to answer questions.**	**Use straight-forward scientific evidence to answer questions or to support their findings. Use results to draw simple conclusions. Begin to identify differences, similarities or changes related to simple ideas or processes.**	**Use scientific evidence to answer questions. Make conclusions based on scientific evidence and from their own testing and findings. Identify differences, similarities or changes related to simple ideas or processes.**	**Use scientific evidence to answer questions. Make conclusions based on scientific evidence and from their own testing and findings. Identify scientific evidence that has been used to support or refute ideas or arguments.**
Evaluate	**N/A**	**Suggest questions for further investigation.**	**Begin to make predictions for new values, suggest improvements and raise further questions.**	**Make predictions for new values, suggest improvements, and raise further questions.**	**Use test results to make predictions to set up further comparative and fair tests. Suggest investigation improvements including accuracy of results. Provide some simple examples of how to extend the investigation.**