Cononley Primary School: Scientific Enquiry Skills Progression – EYFS, Key Stage 1 and Key Stage 2

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Plan: Recognise the best type of enquiry to answer a question						
I am beginning to ask questions and have my own ideas with the help of an adult.	With help and encouragement I ask simple questions that begin with why, what if, how or when	I ask simple questions and recognise these questions can be answered in different ways.	I can ask questions and I recognise that there are different types of enquiry.	I ask relevant questions and use different types of scientific enquiries to answer them.	I ask relevant questions (containing scientific knowledge and understanding) and with help I recognise which type of enquiry is best to answer a question	I ask relevant questions (containing scientific knowledge and understanding). I recognise which type of enquiry is best to answer a question.
Plan: Choose equipment, select tests, use secondary sources to decide how to obtain accurate observations and measurements						
I am beginning to have ideas to find things out or test my ideas.	I make suggestions about how to do things when we plan a simple test.	I decide with help, what to find out, observe or measure	I can set up a simple practical enquiry and I am beginning to understand how to make a test fair. I make suggestions about what observations and measurements to make and what equipment I need	I can set up simple practical enquiries, comparative or fair tests. I decide what observations and measurements to make and what equipment to use.	I decide what observations and measurements to make (controlling variables with help where necessary) and what equipment to use to make my measurements and observations.	I can plan different types of science enquiries to answer questions. I recognise and control variables where necessary. I decide what observations and measurements to make and what equipment to use (giving reasons) to make my measurements and observations.
Do: Obtain observations and measurements using equipment and/or secondary sources						
I am beginning to use different resources and equipment with the help of an adult.	With help, I use simple equipment and non-standard units to find things out. I observe using my senses.	I observe closely, using simple equipment and non-standard units. I can identify and classify. I can perform a simple test.	I am beginning to make systematic and careful observations. I sometimes use standard units. With help, I can use information sources provided to find things out.	I use a range of equipment (including thermometers). I make systematic and careful observations and take accurate measurements using standard units. I use information sources provided to find things out.	I use a range of equipment independently. The series of observations and measurements I take are adequate for the task. I use information sources provided to find things out. I identify possible risks to myself and others.	I take measurements, using a range of scientific equipment with increasing accuracy and precision. I take repeat readings when appropriate. I use relevant information sources to find things out. I identify possible risks to myself and others.
Do: Record observations and measurements						
I can draw my observations and talk about what happened	With help, I can gather and record data to help me answer my questions.	I gather data and record data to help me answer my questions. I record what I have found out using e.g. words or pictures, tables or simple prepared formats.	I gather data and using a pre-prepared table, I can record data. I record my findings using a drawing and/or words.	I gather, record and classify data in a variety of ways to help me answer my questions. I record my findings using simple scientific language, tables, drawings and labelled diagrams.	I gather and record non-complex results (data and observations) using e.g. tables and scientific diagrams.	I record data and results of increasing complexity using e.g. scientific diagrams and labels and tables. I choose a method to suit the results, e.g. a two column table.
Do: Present observations and measurements						
	N/A	**N/A**	With help, I can present my data.	I present my data in a variety of ways using e.g. Venn diagrams, bar charts, simple scatter graphs and keys.	I present the results (data and observations) in a range of formats e.g. bar and line graphs, simple scatter graphs, keys and frequency charts.	I present the data and results in suitable formats using e.g. line graphs, bar graphs, scatter graphs and classification key
Review: Draw conclusions and make explanations						
I am beginning to talk to other people about what happened and what I saw (I might talk about other senses)	I talk about what happened and/or what I saw.	I use my observations and ideas to suggest answers to my questions.	I can use my results when I talk about what happened.	I use my results to draw simple conclusions and I make predictions for new values. I communicate what I have found out using straightforward scientific ideas and I report my findings using oral and written explanations and display.	I draw conclusions from my data and observations. I begin to use basic scientific evidence to support or refute the ideas or arguments for my conclusion.	From my data and observations I draw valid conclusions (i.e. consistent with the evidence) including causal relationships. I identify scientific evidence to support or refute the ideas or arguments for my conclusion.

Review: Evaluate the data collected						
	N/A	N/A	N/A	N/A	I look at my results and decide if any observations or measurements are unsuitable	I look at my results and decide if any observations or measurements are unsuitable and need to be carried out again. I offer simple explanations for differences in results.
Review: Evaluate the process used, including next steps						
I am beginning to talk to other people about what I did.	I talk about what I did.	I talk about how I found out what I found out	I can talk about what went wrong. I have ideas about what else I would like to find out.	I suggest improvements to the way I carried out the enquiry. I suggest further questions to investigate.	I use what I have found out to suggest improvements to my work giving reasons. I can set up further questions to investigate.	I use my test results to make predictions to set up further enquiries e.g. comparative and fair tests and suggest how my working methods could be improved, with reasons.