Disciplinary Knowledge – Enquiry Types

Enquiry Types				
Working scientifically Areas	**Reception**	**Year 1 / 2**	**Year 3/4**	**Year 5/6**
Comparative Testing	Respond to prompts to say what happened to objects, living things or events.	Year 1: Suggest a practical way of how to find things out, or collect data to answer a question or idea they are investigating. Perform simple tests to explore a question or idea suggested to them, with support. Year 2: Identify things to measure or observe that are relevant to the questions or ideas they are investigating using a simple test.	Year 3: Plan and carry out simple practical enquires, comparative and fair tests relevant to the questions or ideas they are investigating, with support. Year 4: Plan and carry out simple practical enquires, comparative and fair tests relevant to the questions or ideas they are investigating. Identify one or more control variables from those provided when conducting a fair test.	Year 5: Clarify which are control, dependent and independent variables in a fair test which they conduct Decide which type of practical enquiry is most appropriate for the question or idea being investigated. Year 6: Explain why variables are significant in the context of the enquiry undertaken Justify the choice of practical enquiry made as being most appropriate.
Identifying and Classifying	Sort/match objects, living things and events in their own way.	Year 1: Recognise basic features, similarities and differences of objects or living things. Sort and group objects or living things in different ways. Year 2: Make comparison between basic features or components of objects, living things or events to support identification and/or classification. Sort and group objects, living things or events based on their observations and explain why.	Year 3: Identify and group objects, living things, processes or events by linking them to the characteristics of known objects, living things, processes or events. Year 4: Identify differences, similarities or changes related to simple scientific ideas or processes and more complex groups of objects, living things and events.	Year 5: Classify objects, living things and events creating and using simple tables, keys or databases with support. Year 6: Use tables, keys and databases to classify or identify specific objects, living things or events by their characteristics Begin to identify some positives and some limitations of specific forms of classification

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Observation over time	Use senses and simple measuring equipment to explore the world around them.	Year 1: Make measurements using non-standard units of measure. Observe objects, living things, events and the world around them closely, using their senses and simple equipment. Year 2: Make measurements using non-standard and standard units of measure. Use equipment, provided for observation and measuring, correctly. Observe closely.	Year 3: Take simple accurate measurements and/or careful observations using whole number standard units relevant to questions or ideas under investigation. Use a range of equipment for measuring and observing, including thermometers and data loggers Year 4: Take accurate measurements using more complex standard units and parts of units. Choose from a range of provided, appropriate equipment for measuring and observing including thermometers and data loggers. Make systematic and careful observations of objects, living things and events.	Year 5: Take measurements using a range of scientific equipment with increasing accuracy and precision identifying the ranges and intervals used. With help recognise that some measurements and observations may need to be repeated. Year 6: Decide whether it is appropriate to repeat observations or measurements and explain how this impacts data collection. Choose and use correctly appropriate equipment to support observation and data collection with increasing accuracy
Pattern Seeking	Demonstrate curiosity about the world around them. To observe what is happening in the world around them with support.	Year 1: Observe closely, using simple equipment. Use observations and ideas to suggest answers to questions. Year 2: To observe changes over time and, with guidance, begin to notice patterns and relationships.	Year 3: Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. Learn to use some new equipment appropriately (eg data loggers). Begin to see a pattern in my results. Year 4: Begin to look for naturally occurring patterns and relationships and decide what data to collect. Support given to make decisions about what observations to make, how long to make them	Year 5: Begin to identify patterns that might be found in the natural environment. Begin to make their own decisions about what observations to make, what measurements to use and how long to make them for and whether to repeat them. Choose the most appropriate equipment and explain how to use it accurately. Begin to interpret data and find patterns. Select equipment on my own. Can make a set of observations and

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			for and the type of simple equipment that might be used.	say what the interval and range are. Year 6: Identify patterns that might be found in the natural environment. Make their own decisions about what observations to make, what measurements to use and how long to make them for and whether to repeat them. Choose the most appropriate equipment and explain how to use it accurately. Can interpret data and find patterns. Select equipment on my own. Can make a set of observations and say what the interval and range are.
Research	To begin to talk about what they have found out or what they think might happen based on their own experiences and with support or prompting.	Year 1: To begin to use simple secondary sources to find answers. To begin to find information to help me from books and computers with help. Year 2: Use simple secondary sources to find answers. Can find information to help me from books and computers with help.	Year 3: Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations. Year 4: Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations.	Year 5: Begin to recognise which secondary sources will be most useful for researching their ideas. Year 6: Recognise which secondary sources will be most useful to research their ideas.

To be able to work independently, the children, also, need to develop a set of skills that they can then use, whilst carrying out the different types of enquiry above. See Working Scientifically Skills – Progression Document.