Progression of WORKING SCIENFIFICALLY skills at Merebrook School

EYFS Framework/ National Curriculum		
EYFS	**Year 1 &2**	**Year 3**
Showing curiosity and asking questions • While exploring the world, children ask questions mainly what something is and why things are the way they are. They show curiosity and listen to answers given. • Children observe changes and processes in nature and comment on what's happening and begin to offer explanations. • Children explore the resources in the environment and use their own curiosity to experiment and investigate nature and its properties.	**Asking simple questions and recognising that they can be answered in different ways.** • While exploring the world, children develop their ability to ask questions (such as what something is, how things are similar and different, the ways things work, which alternative is better, how things change and how they happen). Where appropriate, they answer these questions. • Children answer questions developed with the teacher often through a scenario. • Children are involved in planning how to use resources provided to answer questions using different types of enquiry, helping them to recognise that there are different ways in which questions can be answered.	**Asking relevant questions and using different types of scientific enquiries to answer them.** • Children consider their prior knowledge when asking questions. They independently use a range of question stems. Where appropriate they answer these questions. • Children answer questions posed by the teacher. • Given a range of resources, the children decide for themselves how to gather evidence to answer the question. • Children recognise when secondary sources can be used to answer questions that cannot be answered through practical work. • Children identify the type of enquiry that they have chosen to answer their question.
Making observations and taking measurements by comparison • Children explore the world around them, they make simple observations using their senses and talk about the differences, similarities and changes that they notice in nature. • Children begin to take measurements by making direct comparisons, talking about sizes, shapes and colours	**Observing closely, using simple equipment** • Children explore the world around them. They make careful observations to support identification, comparison and noticing change. They use appropriate senses, aided by equipment such as magnifying glasses or digital microscopes, to make their observations. • Children take measurements, initially by comparisons, then using non-standard units.	**Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers** • Children make systematic and careful observations. • Children use a range of equipment for measuring length, time, temperature and capacity. They use standard units for their measurements.

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<td>Identifying, sorting and grouping

• Children use their senses to Identify common objects, materials and living things by using the knowledge they are gaining in and out of the classroom.
• Children begin to sort and group things based on their basic differences into given categories. Children begin to use secondary resources such as pictures, videos and non-fiction materials to name living things and begin to talk about basic features of a living thing.
Testing ideas

• Children explore the natural world and use the resources in the environment to initiate and conduct their own experiments in order to see what happens.</td>
<td>Identifying and classifying

• Children use their observations and testing to compare objects, materials and living things. They sort and group these things, identifying their own criteria for sorting.
• Children use simple secondary sources (such as identification sheets) to name living things. They describe the characteristics they used to identify a living thing.
Performing simple tests

• Children use practical resources provided to gather evidence to answer questions generated by themselves or the teacher. They carry out: tests to classify; comparative tests; pattern seeking enquiries; and make observations over time.</td>
<td>Setting up simple practical enquiries, comparative and fair tests

• Children select from a range of practical resources to gather evidence to answer questions generated by themselves or the teacher. Children follow their plan to carry out: observations and tests to classify; comparative and simple fair tests; observations over time; and pattern seeking.</td>
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<td>Using their observations to help them to answer their questions

• Children use their observations of the natural world to talk about what they have found out. With directed support and questioning. Children begin to use their findings to suggest answers to simple questions.</td>
<td>Using their observations and ideas to suggest answers to questions

• Children use their experiences of the world around them to suggest appropriate answers to questions. They are supported to relate these to their evidence e.g. observations they have made, measurements they have taken or information they have gained from secondary sources.</td>
<td>Using straightforward scientific evidence to answer questions or to support their findings

• Children answer their own and others' questions based on observations they have made, measurements they have taken or information they have gained from secondary sources. The answers are consistent with the evidence.</td>
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Recording their observations	**Gathering and recording data to help in answering questions**	**Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs**
• Children record their observations by drawing, taking photographs and using tick sheets • Children records their measurements by using direct comparison and, on simple tick sheets • Children classify using sorting rings and boxes	• Children record their observations e.g. using photographs, videos, drawings, labelled diagrams or in writing. • Children record their measurements e.g. using prepared tables, pictograms, tally charts and block graphs. • Children classify using simple prepared tables and sorting rings.	• Children decide how to record and present evidence. They record observations e.g. using annotated photographs, videos, labelled diagrams, observational drawings, labelled scientific diagrams or writing. They record measurements e.g. using tables, tally charts, bar charts, line graphs and scatter graphs. They record classifications e.g. using tables, Venn diagrams, Carroll diagrams and classification keys. • Children present the same data in different ways in order to help with answering the question