

**The Welbeck Federation  
Science  
Progression of Knowledge**



Working Scientifically Area	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Questioning	Asking simple <b>questions</b> about the world around them	Asking simple <b>questions</b> and understanding that answers can vary.	Asking <b>questions</b> and recognising that they can be answered in different ways.	Beginning to select their own methods to find the answer to a scientific <b>question</b> .	Beginning to combine research with their own investigations to answer a <b>question</b> .	Design own <b>questions</b> to answer on a given topic.	Develop own <b>questions</b> and plan the most appropriate type of enquiry to answer them.
Explaining	With support, recall simple scientific facts.	Recall simple scientific facts.	Recall relevant scientific facts	Use scientific ideas and facts to describe and explain.	Show developing knowledge and understanding of scientific ideas and concepts	Show clear knowledge and understanding of scientific ideas and concepts.	Show secure knowledge and understanding of scientific ideas and concepts.
	With support, describe what is happening using words or actions.	Describe what is happening using words or pictures.	Describe and recall what I have observed.	Describe simple scientific diagrams	Describe and explain scientific models or diagrams	Use knowledge and understanding to describe and explain scientific models or diagrams	Begin to use scientific modes or diagrams to explain new events.
Observing and measuring	Making <b>observations</b> about things they can see around them.	Know that there are different ways to <b>observe</b> something closely.  Observing specific aspects closely using	<b>Observing</b> specific aspects closely using specific equipment including rulers, stop watches and hand lenses	Know that careful <b>observations</b> can form part of scientific enquiry.  Making careful observations and taking	Making systematic and careful <b>observations</b> and taking accurate measurements using a range of equipment including thermometers	Taking <b>measurements</b> using a range of scientific equipment, taking repeat readings where necessary. Make decisions about what	Taking <b>measurements</b> using a range of scientific equipment, with increasing accuracy and precision.

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		simple equipment such as hand lenses and stop watches - introducing with support.	independently	accurate measurements using a range of equipment including thermometers and data loggers (guided)	and data loggers (more independently)	observations to make.	
<b>Predicting</b>	Talk about what might happen	Know what a prediction is. Talk about what they think will happen.	Make simple predictions based on answering a question	Make relevant predictions	Make predictions based on simple scientific knowledge	Make predictions based on scientific knowledge	Make predictions justified by scientific knowledge
<b>Testing</b>	Understand the need to test. Conduct guided investigations with supervision.	Know that a test is a way to check the accuracy of information	Know that there are different ways to perform a test	Know that the process used to carry out a test must be fair. Know what variables are.	Design own simple tests and discuss variables.	Plan different types of scientific enquiry to answer questions. Understand what variables are and how they can be controlled or changed.	Plan the most appropriate type of scientific enquiry. Explain which variables need to be controlled and why.
<b>Identifying and classifying</b>	Simple identifying, with some comparison	Identifying and grouping using basic observations.	Identifying and grouping using existing knowledge as	Identifying, classifying and grouping, using simple keys where appropriate.	Identify criteria for classification and use and develop simple keys.	Understand questions to ask to develop and use more complex	Develop and use classification keys to identify, classify and

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			well as observations.			classification keys.	describe living things and materials, and identify patterns in the natural world.
<b>Using results</b>	Make observations and draw pictures. Discuss what they have seen.	Talk about what they have found out in terms of answering a question posed by the teacher.	Talk about what they have found out and how they found it out. Did everything go to plan?	Using results to draw simple conclusions. Suggest ways to improve.	Draw conclusions based on clear evidence. Use conclusions to raise further questions.	Use results to make predictions to set up further comparative and fair tests.	Use results to make predictions to set up further comparative and fair tests. Identify and understand any weaknesses in results and pose questions for tests to rectify.
<b>Recording</b>	Record data orally or through simple drawings	With support, record data in a variety of ways	Record data in a variety of ways, with simple scientific language.	Gather and record data in a variety of ways to help with answering a question.	Record data using simple scientific language. Use labelled diagrams, bar charts and keys.	Record data with increasing complexity, using tables, classification keys and line graphs.	Record data with increasing complexity. Choose the most appropriate way to present results.
<b>Reporting</b>	Report on investigations orally or through simple drawings	Communicate findings in a range of ways, with support.	Present findings in a variety of ways, using simple	Report on findings in a range of ways, including through oral	Report findings in a variety of ways. Be able to explain	Report findings in more detail, including conclusions and explanations	Report findings in more detail including causal relationship. Research

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			scientific language.	and written explanation and presentation of findings.	findings to the rest of the class, and compare the results of others with their own.	of results. Research evidence to support or refute ideas	evidence to support or refute ideas and identify evidence that supports their findings.