



Abbey Primary School - Working Scientifically Progression Grid



EYFS	EYFS Strand		Working Scientifically
Foundation 1	Communication and Language		Understand 'why' questions
	Personal, Social and Emotional Development		Make healthy choices about food, drink, activity and toothbrushing
	Understanding the World		Use all the senses in hands-on exploration of natural materials. Explore collections of materials with similar and/or different properties. Talk about what is seen, using a wide vocabulary. Begin to make sense of own life-story and family's history. Explore how things work. Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things. Explore and talk about different forces they can feel. Talk about the differences between materials and changes they notice.
Foundation 2	Communication and Language		Learn new vocabulary. Ask questions to find out more and to check what has been said to them. Articulate ideas and thoughts in well-formed sentences. Describe events in some detail. Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. Use new vocabulary in different contexts.
	Personal, Social and Emotional Development		Know and talk about the different factors that support overall health and wellbeing: - regular physical activity - healthy eating - toothbrushing - sensible amounts of 'screen time' - having a good sleep routine - being a safe pedestrian
	Understanding the World		Explore the natural world around them. Describe what they see, hear and feel while they are outside. Recognise some environments that are different to the one in which they live. Understand the effect of changing seasons on the natural world around them.
ELG	Communication and Language	Listening, Attention and Understanding	Make comments about what they have heard and ask questions to clarify their understanding.
	Personal, Social and Emotional Development	Managing Self	Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.
	Understanding the World	The Natural World	Explore the natural world around them, making observations and drawing pictures of animals and plants. Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Key Stage 1	To ask scientific questions	To plan an enquiry	To observe closely	To take measurements	To gather/record results	To present results	To interpret results	To draw conclusions	To make predictions	To evaluate an enquiry
Classifying	Be able to ask a yes/no question	Identify the headings for two groups	Be able to compare objects based on obvious, observable features (size, colour, shape, texture)			Sort objects and living things into two groups using a basic prepared non-intersecting Venn diagram (Y2) or simple prepared table	Talk about the number of objects in each group (which has more, which has less)			
Researching	With support, ask one or two simple questions					Present findings verbally or using pictures	To answer their questions using simple sentences			
Comparative/ fair testing	Identify the question to investigate from a scenario or choose a question from a range provided	Choose equipment to use and decide what to do and what to observe or measure in order to answer questions (from Y2 standard measuring equipment with scales of known multiples - and with numbers not exceeding 100)	Make observations linked to answering the question	Measure using standard units where all the intervals are marked on the scale in known multiples: centimetres, metres grams, kilograms, millilitres, litres and temperature above 0°C are all appropriate to measure by Year 2 (where numbers do not exceed 100)	Record data in simple, prepared tables	Present findings verbally, using pictures or block diagrams (Y2 - consider timing with the teaching sequence in maths - statistics)	Answer their question in simple sentences using their observation or measurements			
Observing over time	With support, ask a question about what might happen in the future based on an observation					Present findings verbally or using pictures				
Pattern seeking	With support, ask a question that is looking for a pattern				Record data in simple, prepared tables and tally charts (Y2 - consider timing with teaching sequence in maths - statistics)	Present findings verbally				

Lower Key Stage 2	To ask scientific questions	To plan an enquiry	To observe closely	To take measurements	To gather/record results	To present results	To interpret results	To draw conclusions	To make predictions	To evaluate an enquiry
Classifying	Be able to ask a range of yes/no questions	Be able to put appropriate headings onto intersecting Venn and Carroll diagrams	Be able to compare objects based on more sophisticated, observable features. Present observations in labelled diagrams.			Sort objects and living things into groups using intersecting Venn diagrams.	Spot patterns in the data particularly two criteria with no examples e.g. there are no living things with wings and no legs	Draw simple conclusions, when appropriate, for patterns e.g. a flying insect with no legs might always crash land		Suggest improvement e.g. a wider range of objects - only looked at British trees. Suggest new questions arising from the investigation.
Researching	Ask a range of questions linked to a topic	Choose a source from a range provided				Present what they learnt verbally or using labelled diagrams	Be able to answer their questions using simple scientific language			Suggest limitations and new questions arising
Comparative/ fair testing		Decide what to change and what to measure or observe	Make observation linked to answering the question	Measure using standard units where not all the numbers are marked on the scale, and take repeats where necessary.	Prepare <u>own</u> tables to record data (teach pupils to draw own tables from Year 3)	Present data in bar charts	Refer directly to their evidence when answering their question	Provide an oral or written explanation for findings	Use prior knowledge to make a prediction.	Suggest improvements and new questions arising
Observing over time		Decide what to measure or observe and how often	Make a range of relevant observations	Measure using standard units where not all the numbers are marked on the scale. Use dataloggers to measure over time (use of datalogger to be modelled by teacher in Y3 during LIGHT unit)		Present data in line graphs (Y4 - consider timing with teaching sequence in maths - statistics)			Use results from an investigation to make a simple prediction about a further result	
Pattern seeking		Decide what to measure or observe	Make observations linked to answering the question	Measure using standard units where not all the numbers are marked on the scale.		Use ICT to present data in a bar chart or a line graph. (link to Computing)				

Upper Key Stage 2	To ask scientific questions	To plan an enquiry	To observe closely	To take measurements	To gather/record results	To present results	To interpret results	To draw conclusions	To make predictions	To evaluate an enquiry
Classifying	Be able to ask a range of yes/ no questions and decide which ways of sorting will give useful information	Identify specific clear questions that will help to sort	Be able to compare not only based on physical properties but also on knowledge gained through previous enquiry			Create branching databases (tree diagrams) and keys to enable others to name living things and objects	Be able to talk about the features that objects and living things share and do not share based on the information in the key etc.	Be able to use data to show that living things and materials that are grouped together have more things in common than with things in other groups		Be able to explain, using evidence, that the branching database or classification key will only work for the living things or materials it was created for
Researching	Ask a range of questions recognising that some can be answered through research and others may not	Choose suitable sources to use (link to Computing)				Present what they learnt in a range of ways e.g. different graphic organisers	Be able to answer their questions using scientific evidence gained from a range of sources			Be able to talk about their degree of trust in the sources they used
Comparative/ fair testing	Ask a range of questions and identify the type of enquiry that will help to answer the questions. Ask further questions based on results.	Recognise and control variables where necessary	Make detailed observations linked to answering the question	Measure using standard units using equipment that has scales involving decimals to 2.dp (in Y4 - tenths and hundredths have been covered already - consider timing with teaching sequence in Y5 - decimals)	Prepare own tables to record data including columns for repeat readings	Choose an appropriate form of presentation, including line graphs	Be able to answer their question, describing causal relationships	Provide oral or written explanations for their findings	Use prior knowledge to make a prediction with explanation. Use test results to make predictions for further investigations	Explain their degree of trust in their results e.g. precision in taking measurements, variables that may not have been controlled, and accuracy of results
Observing over time							Be able to answer their questions, describing the change over time			
Pattern seeking						Choose an appropriate form of presentation that draws upon ICT, including scatter graph or pie chart (link to Computing)	Be able to answer their questions identifying patterns			