



Working Scientifically Progression Map

Nursery and Reception

Talk about what he/she sees, using a wider vocabulary.

Use all of the senses to explore natural materials.

Begin to make predictions about what might happen in simple investigations.

Explore and talk about concepts such as magnetism, sinking and floating and changes in materials

Identify, compare and classify places, objects, materials and living things.

Begin to ask simple questions and show curiosity.

Areas Covered

Natural materials / forces – push pull – wind magnetism / changes in materials – clay , cooking, Melting, freezing, simple coding using beebots and programmable toys, machines in the home , robots, torches

	KS1	Lower KS2	Upper KS2
Plan	ask some simple scientific questions about the world around them begin to recognise ways in which they might answer scientific questions	use their scientific experiences to raise questions about the world around them start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions, e.g. recognising when a fair test is necessary help decide what observations or measurements they might make, how long they will make them for and the equipment they might use help decide how to record and analyse data	explore and talk about their ideas and scientific experiences to raise enquiry questions about scientific phenomena make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions make their own decisions about what observations to make, the most appropriate equipment to use, what measurements to take and for how long, and whether to repeat them recognise variables in comparative and fair tests and plan how they will control them decide how to record data from a choice of familiar approaches
Do	observe the natural and humanly-constructed world around them use simple measurements (e.g. using comparisons or non-standard units), sometimes using simple	make systematic and careful observations take accurate measurements using standard units use a range of equipment, including thermometers and data	make systematic, careful and detailed observations take measurements, using a range of scientific equipment, with increasing accuracy and precision

	equipment make careful observations in enquiries, sometimes using simple equipment carry out enquiries that involve observing over time use simple secondary sources for researching answers to questions carry out simple comparative tests carry out simple pattern seeking enquiries identify some living and non-living things and their features (identifying, grouping and classifying) use simple features to compare objects, materials and living things (identifying, grouping and classifying) decide how to sort and classify things into simple groups with some help (identifying, grouping and classifying)	loggers set up and carry out enquiries that involve observing over time use secondary sources for researching answers to questions, recognising how this allows them to answer questions that cannot be answered through practical investigations set up and carry out simple comparative and fair tests set up and carry out pattern seeking enquiries talk about criteria for identifying, grouping and classifying identify, group and classify things, using simple keys when appropriate	take repeat readings where appropriate and understand the importance of this set up and carry out enquires that involve observing over time, including changes over different periods of time use a wide range of secondary sources for researching answers to questions, deciding which sources will be most useful and reliable, and understanding the difference between fact and opinion. set up and carry out comparative and fair tests, including controlling variables set up and carry out pattern seeking enquiries, choosing a reliable sample size identify, group, classify and describe a wide range of living things and materials, using their scientific knowledge to justify their choices use and develop keys and other information records of increasing complexity to identify, classify, group and describe living things and materials
Record	gather and record observations to help answer questions in a variety of ways, e.g. labelled diagrams or simple tables gather and record measurements to help answer questions in a variety of ways, e.g. simple tables, pictograms, tally charts or block diagrams gather and record findings from their research (such as from secondary sources) in a variety of ways, e.g. fact files, answers to questions or giving explanations record classification tasks using simple tables or sorting diagrams use and apply mathematical skills at a level consistent with their increasing maths knowledge at key stage 1	gather, record and present observations in a variety of ways to help answer questions, e.g. written recordings using simple scientific language, drawings, labelled diagrams or tables gather, record and present measurements in a variety of ways to help answer questions, e.g. tables and bar charts gather, record and present findings from their research (such as from secondary sources) in a variety of ways, e.g. fact files, answers to questions or giving explanations record classification tasks in a variety of ways to help answer questions, e.g. simple keys, tables or Venn diagrams use and apply mathematical skills at a level consistent with their increasing maths knowledge at lower key stage 2	gather, record and present observations of increasing complexity, e.g. using scientific diagrams and labels gather, record and present measurements in a variety of increasingly complex ways, e.g. using tables, scatter graphs, bar graphs or line graphs gather, record and present findings of increasing complexity from their research (such as from secondary sources) in a variety of ways, e.g. fact files, answers to questions or giving explanations record classification tasks in a variety of ways to help answer questions, e.g. classification keys use and apply mathematical skills at a level consistent with their increasing maths knowledge at upper key stage 2

Review	with support, begin to notice patterns and relationships begin to draw simple conclusions use a range of scientific vocabulary accurately. Read and spell some of these words at a level consistent with their increasing word reading and spelling knowledge at key stage 1 communicate their findings to a variety of audiences in a variety of ways	with support, identify changes, patterns and similarities and differences, (e.g. in their data, from observations or from research of scientific ideas) to help answer questions and draw conclusions use straightforward scientific evidence (from observations, measurements or secondary sources) to answer questions or support their conclusions make predictions for new values raise further questions which could be investigated suggest improvements to investigations use, read and spell scientific vocabulary correctly and with confidence, using their growing word reading and spelling knowledge report and present their results and conclusions to different audiences in written and oral forms with increasing confidence	notice patterns in their results (including those found in the natural environment) analyse results to determine and then explain causal relationships draw increasingly complex conclusions based on their data, observations and scientific knowledge, identifying if this refutes or supports their previous ideas use their test results to make predictions to set up further comparative and fair tests. discuss the degree of trust they can have in a set of results, e.g. by considering measurement precision and accuracy, how variables were controlled and enquiry limitations. read, spell and pronounce scientific vocabulary correctly report and present their results and conclusions to others in oral and written forms with confidence talk about how scientific ideas have developed over time, with reference to scientific evidence that has been used to support or refute ideas or arguments
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