



Science Learning Progression

F2 to Y6: Working Scientifically

Key Area	F2	Y1 & Y2	Y3 & Y4	Y5 & Y6
Ask scientific questions	<p>Ask questions to find out more</p> <p>Make comments about what they have heard and ask questions to clarify their understanding</p>	<p>Ask yes or no questions to aid sorting</p> <p>Ask one or two simple questions linked to a topic</p> <p>Identify the question to investigate from a scenario or choose a question from a range provided</p> <p>Ask a question about what might happen in the future based on an observation</p> <p>Ask a question that is looking for a pattern based on observations</p>	<p>Ask a range of yes or no questions to aid sorting</p> <p>Ask a range of questions linked to a topic</p>	<p>Ask a range of yes or no questions to aid sorting and decide which ways of sorting will give useful information</p> <p>Ask a range of questions, recognising that some can be answered through research and others may not</p> <p>Ask a range of questions and identify the type of enquiry that will help to answer the questions. Ask further questions based on results.</p>

Plan an enquiry		<p>Identify the headings for the two groups – it is, it is not</p> <p>Choose equipment to use and decide what to do and what to observe or measure in order to answer the question</p>	<p>Put appropriate headings onto intersecting Venn and Carroll diagrams</p> <p>Choose a source from a range provided</p> <p>Decide what to change and what to measure or observe</p> <p>Decide what to measure or observe.</p>	<p>Identify specific clear questions that will help to sort without ambiguity</p> <p>Choose suitable sources to use</p> <p>Recognise and control variables where necessary</p>
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			Decide how often to take a measurement. Decide what to measure or observe	
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Make a prediction		Make predictions based on what they know.	Use results from an investigation to make a prediction about a further result.	Use test results to make predictions for further investigations
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Observe closely	Explore the natural world around them Articulate their ideas and thoughts Describe events in some detail Use new vocabulary in different contexts	Compare objects based on obvious, observable features e.g. size, shape, colour, texture etc. Make observations linked to answering a question	Compare objects based on more sophisticated, observable features. Make observations linked to answering a question Present observations in labelled diagrams. Make a range of relevant observations	Compare not only based on physical properties but also on knowledge gained through previous enquiry Make observations linked to answering a question Present observations in labelled diagrams. Make a range of relevant observations
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Take measurements	Compare length, weight and capacity	Measure using standard units where all the numbers are marked on the scale	Measure using standard units where not all the numbers are marked on the scale and take repeat readings where necessary. Measure using standard units where not all the numbers are marked on the scale. Use dataloggers to measure over time.	Measure using standard units using equipment that has scales involving decimals
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			Measure using standard units where not all the numbers are marked on the scale.	
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Gather and record results		Record data in simple prepared tables, pictorially or by taking photographs	Prepare own tables to record data	Prepare own tables to record data, including columns for taking repeat readings
		Record data in simple prepared tables, pictorially or by taking photographs		Prepare own tables to record data
		Record data in simple, prepared tables and tally charts		

Present results		Sort objects and living things into two group using a basic Venn diagram or simple table	Sort objects and living things into groups using intersecting Venn and Carroll diagrams	Create branching databases (tree diagrams) and keys to enable others to name living things and objects
		Present what they have learnt verbally or using pictures	Present what they learnt verbally or using labelled diagrams	Present what they learnt in a range of ways e.g. different graphic organisers
		Present what they learnt verbally, using pictures or block diagrams	Present data in bar charts	Choose an appropriate form of presentation, including line graphs
		Present what they learnt verbally or using pictures	Present data in time graphs	Choose an appropriate form of presentation, including scatter graphs
		Present what they learnt verbally	Use ICT package to present data as a scattergram	

Interpret results	Use talk to help work out problems and organise thinking and	Talk about the number of objects in each group i.e. which has more or less.	Spot patterns in the data particularly two criteria with no examples e.g. there	Be able to talk about the features that objects and living things
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	<p>activities, and to explain how things work and why they might happen.</p> <p>Use new vocabulary in different contexts</p>	<p>Be able to answer their questions using simple sentences.</p> <p>Answer their question in simple sentences using their observations or measurements.</p>	<p>are no living things with wings and no legs.</p> <p>Be able to answer their questions using simple scientific language.</p> <p>Refer directly to their evidence when answering their question.</p>	<p>share and do not share based on the information in the key etc.</p> <p>Be able to answer their questions using scientific evidence gained from a range of sources.</p> <p>Be able to answer their question, describing causal relationships.</p> <p>Be able to answer their questions, describing the change over time.</p> <p>Be able to answer their questions identifying patterns.</p>
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Draw conclusions		<p>Make observations to help answer questions.</p>	<p>Draw simple conclusions, when appropriate, for patterns e.g. a flying insect with no legs might always crash land.</p> <p>Where appropriate provide oral or written explanations for their findings.</p>	<p>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.</p> <p>Provide oral or written explanations for their findings.</p>
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Evaluate an enquiry		<p>Adapt methods based on what has happened.</p>	<p>Suggest improvement e.g. a wider range of objects – only looked at British trees.</p> <p>Suggest new questions arising from the investigation.</p>	<p>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.</p>
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			<p>Suggest limitations e.g. only had one book.</p> <p>Suggest new questions arising from the investigation.</p> <p>Suggest improvements e.g. the method of taking measurements.</p> <p>Suggest new questions arising from the investigation.</p>	<p>Be able to talk about their degree of trust in the sources they used.</p> <p>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.</p>
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