

Progression of Disciplinary Knowledge in Science

Progression of skills	Nursery	EYFS	Y1	Y2	Y3	End of KS1 Assessment Framework statements
I can...	I can...	I can...	I can...	I can...	I can...	
KNOWLEDGE OF METHODS SCIENTISTS USE TO ANSWER QUESTIONS	Understand 'why' questions like: 'Why do you think the caterpillar got so fat?' Use all my senses in hands-on exploration of natural materials. Talk about what they see, using a wide vocabulary.	Describe what I see, hear and feel whilst outside. Make observations of animals and plants. Talk about changes. Recognise some environments that are different to the one in which I live.	Ask simple questions about the world around us Begin to recognise that questions can be answered in different ways. Begin to make simple predictions Begin to discuss my ideas about how to find things out Begin to use simple secondary sources to find answers With help, begin to find information to help from books and computers	Ask questions about the world around us Recognise that questions can be answered in different ways (changes over time, noticing patterns, grouping and classifying, comparative and fair tests, research) Make simple predictions and give a reason Observe closely using simple equipment Use observations and ideas to suggest answers to questions Use simple secondary sources to find answers Find information to help from books and computers with help	Ask relevant questions and use different types of scientific enquiry to answer them. Use secondary sources, books and the internet with increasing independence.	Children will be able to: -ask their own questions about what they notice -use different types of scientific enquiry to gather and record data, using simple equipment where appropriate, to answer questions: observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, finding things out using secondary sources of information

KNOWLEDGE OF APPARATUS AND TECHNIQUES INCLUDING MEASURE	Use all their senses in hands-on exploration. Talk about what they see, using a wide vocabulary. Explore how things work.	Describe what I see, hear and feel whilst outside. Make observations of animals and plants. Talk about changes. Recognise some environments that are different to the one in which I live.	Carry out simple tests with support using rulers, magnifying glasses and observation charts Show results in a simple table that the teacher has provided To begin to say what I am looking for and what I am measuring Use simple equipment with support Begin to observe closely, using simple equipment To know how to use simple equipment safely Use simple measurements and equipment with support (eg hand lenses and egg timers)	Carry out simple tests To say what I am looking for and what I am measuring To know how to use simple equipment safely Use simple measurements and equipment with increasing independence (eg hand lenses and egg timers) Begin to progress from non-standard units, reading mm, cm, m, ml, l, °C	Set up simple practical enquiries, comparative and fair tests. Begin to make systematic and careful observations and, where appropriate, take accurate measurements using standard units, use a range of equipment, including thermometers and data loggers.	-use different types of scientific enquiry to gather and record data, using simple equipment where appropriate, to answer questions: observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, finding things out using secondary sources of information

			Begin to progress from non-standard units, reading cm, m, cl, l, °C			
KNOWLEDGE OF DATA ANALYSIS	Talk about what they see, using a wide vocabulary.	Describe what I see, hear and feel whilst outside. Make observations of animals and plants. Talk about changes. Recognise some environments that are different to the one in which I live.	Begin to record simple data Gather and record data with some adult support, to help in answering questions Show results in a simple table that the teacher has provided To observe simple changes over time and, with guidance, begin to notice patterns and relationships With support, decide how to group objects and materials Begin to observe and identify, compare and describe To begin to use simple features to compare objects, materials and living things and, with help, decide how to sort and group them	Gather and record data to help in answering questions Record simple data Record and communicate findings in a range of ways Show results in a table that the teacher has provided Use observations and ideas to suggest answers to questions To observe changes over time with guidance and begin to notice patterns and relationships Decide how to sort and group objects, materials and living things Use simple features to compare objects, materials and living	Gather, record, classify and present data in a variety of ways to help in answering questions record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. Identify differences, similarities or changes related to simple scientific ideas and processes	-Communicate their ideas, what they do and what they find out in a variety of ways.

				things and, with help, decide how to sort and group them		
KNOWLEDGE OF HOW SCIENCE USES EVIDENCE TO DEVELOP EXPLANATIONS	Talk about what they see, using a wide vocabulary. Explore collections of materials with similar/different properties. Explore how things work.	Describe what I see, hear and feel whilst outside. Make observations of animals and plants. Talk about changes. Recognise some environments that are different to the one in which I live.	To begin to say what happened in my investigation Begin to record and communicate their findings in a range of ways Begin to talk about what they have found out and how they found it out Begin to say what happened in the investigation and whether the results were as expected or not To begin to say what they would change about their investigation Use some simple scientific language	To say what happened in my investigation Talk about what they have found out and how they found it out To say what happened in the investigation and whether the results were as expected or not To begin to say what they would change in their investigation Use simple scientific language and some science words Use comparative language with increasing independence – bigger, faster etc	Use simple scientific language to draw simple conclusions, make predictions, suggest improvements or raise further question.	-Communicate their ideas, what they do and what they find out in a variety of ways.

			Use comparative language with support			
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