Level Expected at the End of EYFS

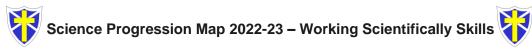
A selection of the **most relevant** statements from Development Matters age ranges for Three and Four-Year-Olds and Reception as well as highlighting the statements within the ELGs **which feed into** the programme of study for Science.

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Three- & Four-Year Olds	Personal, Social & Emotional Development	Understand 'why' questions, like: "Why do you think the caterpillar got so fat?"
	Communication & Language	Make healthy choices about food, drink, activity and toothbrushing.
	Understanding the World	 Use all their senses in hands-on exploration of natural materials. Explore collections of materials with similiand/or different properties. Talk about what they see, using a wide vocabulary. Begin to make sense of their own life-stor and family's history. Explore how things work. Plant seeds and care for growing plants. Understand the key features of the life cyon of a plant and an animal. Begin to understand the need to respect a care for the natural environment and all living things. Explore and talk about different forces the can feel. Talk about the differences between materials and changes they notice.



Science		
Reception	Communication & Language	 Learn new vocabulary. Ask questions to find out more and to check what has been said to them. Articulate their 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 & Emotional Development	 Know and talk about the different factors that support their 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.

Science			
ELG	Communication & Language	Listening, Attention & Understanding	 Make comments about what they have heard and ask questions to clarify their understanding.
	Personal, Social & 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 & 2

This curriculum progression map comprehensively shows the progression of working scientifically skills from year 1 to year 6. Statements here are taken directly from the national curriculum.

National Curriculum Working Scientifically				
Key Stage 1	Lower Key Stage 2	Upper Key Stage 2		
During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:	During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:	During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:		
 asking simple questions and recognising that they can be answered in different ways; observing closely, using simple equipment; performing simple tests; identifying and classifying; using their observations and ideas to suggest answers to questions; gathering and recording data to help in answering questions. 	 asking relevant questions and using different types of scientific enquiries to answer them; setting up simple practical enquiries, comparative and fair tests; making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers; gathering, recording, classifying and presenting data in a variety of ways to help in answering questions; recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables; reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions; using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions; identifying differences, similarities or changes related to simple 	 planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary; taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate; recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs; using test results to make predictions to set up further comparative and fair tests; reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations; identifying scientific evidence that has been used to support or refute ideas or arguments. 		

scientific ideas and processes;	
 using straightforward scientific evidence to answer questions or to support their findings. 	

In line with the national curriculum aims for science, this progression map includes fair testing in the 'Asking Questions and Carrying Out Fair and Comparative Tests' section. When we talk about making tests fair, we are referring to any investigation when efforts are made to achieve more reliable data by changing the variable being tested and keeping all control variables the same. This interpretation of fair testing at primary level is consistent with the example given in the Standards and Testing Agency Science Teacher Assessment Exemplification for KS2.

	KS1	LKS2	UKS2
Plan	KS1 KS1 Science National Curriculum Asking simple questions and recognising that they can be answered in different ways. Children can: a explore the world around them, leading them to ask some simple scientific questions about how and why things happen; b begin to recognise ways in which they might answer scientific questions; c ask people questions and use simple secondary sources to find answers.	LKS2 Lower KS2 Science National Curriculum Asking relevant questions and using different types of scientific enquiries to answer them. Children can: a start to raise their own relevant questions about the world around them in response to a range of scientific experiences; b start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions; c recognise when a fair test is necessary; d help decide how to set up a fair test, making decisions about what observations to make, how long to make them for and the type of	Upper KS2 Science National Curriculum Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Children can: a with growing independence, raise their own relevant questions about the world around them in response to a range of scientific experiences; b with increasing independence, make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions; c explore and talk about their ideas, raising
		simple equipment that might be used.	different kinds of scientific questions; d ask their own questions about scientific phenomena; e select and plan the most appropriate type of scientific enquiry to use to answer scientific questions; f make their own decisions about what observations to make, what measurements to use and how long to make them for, and whether to repeat them; g plan, set up and carry out comparative and fair

recognising and controlling variables where necessary.
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	KS1	LSK2	UKS2
Do	KS1 Science National Curriculum	Lower KS2 Science National Curriculum	Upper KS2 Science National Curriculum
БО	Observing closely, using simple equipment. Performing simple tests.	Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and	Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
Identifying and classifying. Children can: data loggers. Setting up simple practical enquiries, comparative and fair tests.		data loggers. Setting up simple practical enquiries,	Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
	 a observe the natural and humanly-constructed world around them; b observe changes over time; c use simple measurements and equipment; d make careful observations, sometimes using equipment to help them observe carefully; 	Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. Children can: a make systematic and careful observations;	Children can: a choose the most appropriate equipment to make measurements and explain how to use it accurately; b take measurements using a range of scientific equipment with increasing accuracy and precision;
	 e carry out simple practical tests, using simple equipment; f experience different types of scientific enquiries, including practical activities; g talk about the aim of scientific tests they are working on; h use simple features to compare objects, materials and living things; i decide how to sort and classify objects into simple groups with some help. 	 b observe changes over time; c use a range of equipment, including thermometers and data loggers; d ask their own questions about what they observe; e where appropriate, take accurate measurements using standard units using a range of equipment; f set up and carry out simple comparative and fair tests; 	 c make careful and focused observations; d know the importance of taking repeat readings and take repeat readings where appropriate; e independently group, classify and describe living things and materials; f use and develop keys and other information records to identify, classify and describe living things and materials.

g talk about criteria for grouping, sorting and classifying;	
h group and classify things.	

	KS1	LKS2	UKS2
Record	KS1 Science National Curriculum	Lower KS2 Science National Curriculum	Upper KS2 Science National Curriculum
	Gathering and recording data to help in answering questions.	Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.	Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
	Children can:	Recording findings using simple scientific	
	a record and communicate findings	language, drawings, labelled diagrams, keys, bar charts, and tables.	Children can:
	in a range of ways with support;	bai charte, and tables.	a decide how to record data from a choice of
	b sort, group, gather and record data	Children can:	familiar approaches;
	in a variety of ways to help in answering questions, such as in simple sorting diagrams,	a collect data from their own observations and measurements;	b record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter
	pictograms, tally charts, block diagrams and simple tables.	b present data in a variety of ways to help in answering questions;	graphs, bar graphs and line graphs.
		c use, read and spell scientific vocabulary correctly and with confidence, using their growing word reading and spelling knowledge;	
		d record findings using scientific language, drawings, labelled diagrams, keys, bar charts and tables.	

	KS1	LKS2	USK2
Review	KS1 Science National Curriculum Using their observations and ideas to suggest answers to questions.	Lower KS2 Science National Curriculum Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.	Upper KS2 Science National Curriculum Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in

Children can:

- notice links between cause and effect with support;
- b begin to notice patterns and relationships with support;
- c begin to draw simple conclusions;
- d identify and discuss differences between their results;
- e use simple and scientific language;
- read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage 1;
- g talk about their findings to a variety of audiences in a variety of ways.

Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.

Identifying differences, similarities or changes related to simple scientific ideas and processes.

Using straightforward scientific evidence to answer questions or to support their findings.

Children can:

- draw simple conclusions from their results;
- b make predictions;
- c suggest improvements to investigations;
- d raise further questions which could be investigated;
- e first talk about, and then go on to write about, what they have found out;
- f report and present their results and conclusions to others in written and oral forms with increasing confidence;
- g make links between their own science results and other scientific evidence:
- identify similarities, differences, patterns and changes relating to simple scientific ideas and processes;
- use straightforward scientific evidence to answer questions or support their findings;
- recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations.

oral and written forms such as displays and other presentations.

Using test results to make predictions to set up further comparative and fair tests.

Identifying scientific evidence that has been used to support or refute ideas or arguments.

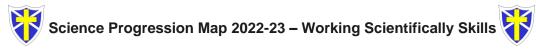
Children can:

- a notice patterns;
- b draw conclusions based in their data and observations;
- use their scientific knowledge and understanding to explain their findings;
- d read, spell and pronounce scientific vocabulary correctly;
- e identify patterns that might be found in the natural environment:
- f look for different causal relationships in their data;
- g discuss the degree of trust they can have in a set of results:
- h independently report and present their conclusions to others in oral and written forms;
- i use their test results to identify when further tests and observations may be needed;
- use test results to make predictions for further tests;
- k use primary and secondary sources evidence to justify ideas;
- identify evidence that refutes or supports their ideas:
- m recognise where secondary sources will be most useful to research ideas and begin to

		separate opinion from fact;
	n	use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas;
	0	talk about how scientific ideas have developed over time.

Progression of Vocabulary - Working Scientifically

KS1	LKS2	UKS2
aim	accurate	accuracy and precision
answers	bar chart	bar graphs
block diagrams	chart	causal relationship
changes	classify	degree of trust
compare	comparative test	dependent variable
describe	conclusion (What have we found out?)	independent variable
difference	criteria	justify
different	data	line graphs
enquiry	develop	refute
equipment	diagram	repeat results
experience	evaluate	scatter graphs
explore	evidence	support
findings	explanation	variables (what do we change, what do we keep
gather	key	the same, how and what are we measuring?)
group	making a test fair	
identify (name)	method	
investigate	observations	
measure	plan (What will we do?)	
notice	practical enquiry	
observe	prediction (What do you think will happen?)	
patterns	primary sources	



pictograms	questioning	
questions	reasoning	
record	relationships	
same	results (What happened?)	
similarity	secondary sources	
simple tables	standard units	
sort	table	
sorting diagrams	What do we change, what do we keep the same,	
tally charts	what are we measuring?	
test		
What will we do? (plan)		
What do you think will happen? (prediction)		
What happened? (results)		
What have we found out? (conclusion)		