Whole School Curriculum Progression Map Scientific Enquiry



	EYFS	EYFS			
		30-50 Months	40-60 Months	Early Learning Goal	
Physical Development	Health and Self Care	To observe the effects of physical activity on their bodies.	 To eat a healthy range of foodstuffs and understand a need for variety in food. To show some understanding that good practices with regard to exercise, eating, sleeping and hygiene can contribute to good health. 	To know the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe.	
Understanding The World	The World	 To comment and ask questions about aspects of their familiar world, such as the place where they live or the natural world. To talk about some of the things they have observed, such as plants, animals, natural and found objects. To talk about why things happen and how things work. To develop an understanding of growth, decay and changes over time. To show care and concern for living things and the environment. 	To look closely at similarities, differences, patterns and change.	To know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another	
Expressive Arts and Design	Exploring and Using Media and Materials	To begin to be interested in and describe the texture of things.			

Whole School Curriculum Progression Map Scientific Enquiry



	KS1	LKS2	UKS2
Asking Questions and Carrying Out Fair and Comparative Tests	KS1 Science National Curriculum Asking simple questions and recognising that they can be answered in different ways. Performing simple tests. 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; d carry out simple practical tests, using simple equipment; e experience different types of scientific enquiries, including practical activities; f talk about the aim of scientific tests they are working on; g with support, start to recognise a fair test.	Lower KS2 Science National Curriculum Asking relevant questions and using different types of scientific enquiries to answer them. Setting up simple practical enquiries, comparative and fair tests. 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 simple equipment that might be used; e set up and carry out simple comparative and fair tests.	Upper KS2 Science National Curriculum Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Using test results to make predictions to set up further comparative and fair tests. 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 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 tests to answer questions, including recognising and controlling variables where necessary; h use their test results to identify when further tests and observations may be needed; i use test results to make predictions for further tests.

Whole School Curriculum Progression Map Scientific Enquiry



Observing and Measuring Changes

KS1 Science National Curriculum

Observing closely, using simple equipment.

Children can:

- observe the natural and humanly constructed world around them;
- b observe changes over time;
- c use simple measurements and equipment;
- make careful observations, sometimes using equipment to help them observe carefully.

Lower KS2 Science National Curriculum

Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.

Children can:

- a make systematic and careful observations;
- b observe changes over time;
- use a range of equipment, including thermometers and data loggers;
- ask their own questions about what they observe;
- where appropriate, take accurate measurements using standard units using a range of equipment.

Upper KS2 Science National Curriculum

Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.

Children can:

- 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;
- take repeat readings when appropriate;
- understand why we take an average in repeat readings.

Whole School Curriculum Progression Map Scientific Enquiry



KS1 Science National Curriculum

Identifying and classifying.

Gathering and recording data to help in answering questions. Children can:

- use simple features to compare objects, materials and living things;
- decide how to sort and classify objects into simple groups with some help;
- record and communicate findings in a range of ways with support;
- d sort, group, gather and record data in a variety of ways to help in answering questions such as in simple sorting diagrams, pictograms, tally charts, block diagrams and simple tables.

Lower KS2 Science National Curriculum

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.

Children can:

- talk about criteria for grouping, sorting and classifying;
- b group and classify things;
- collect data from their own observations and measurements;
- d present data in a variety of ways to help in answering questions;
- use, read and spell scientific vocabulary correctly and with confidence, using their growing word reading and spelling knowledge;
- record findings using scientific language, drawings, labelled diagrams, keys, bar charts and tables.

Upper KS2 Science National Curriculum

Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.

Children can:

- independently group, classify and describe living things and materials;
- use and develop keys and other information records to identify, classify and describe living things and materials;
- decide how to record data from a choice of familiar approaches;
- record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar graphs and line graphs.

Drawing Conclusions, Noticing Patterns and Presenting Findings

Sytchampton Endowed Primary School

Whole School Curriculum Progression Map Scientific Enquiry



KS1 Science National Curriculum

Using their observations and ideas to suggest answers to questions.

Children can:

- a 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.

Lower KS2 Science National Curriculum

Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.

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

Children can:

- a draw simple conclusions from their results;
- b make predictions;
- c suggest improvements to investigations;
- d raise further questions which could be investigated;
- first talk about, and then go on to write about, what they have found out;
- report and present their results and conclusions to others in written and oral forms with increasing confidence.

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 oral and written forms such as displays and other presentations.

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;
- 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.

Whole School Curriculum Progression Map Scientific Enquiry



Upper KS2 Science National Curriculum

Identifying differences, similarities or changes related to simple Identifying scientific evidence that has been used to support or refute scientific ideas and processes. ideas or arguments. Using straightforward scientific evidence to answer questions Children can: Using Scientific Evidence and or to support their findings. use primary and secondary sources evidence to justify ideas; Children can: b identify evidence that refutes or supports their ideas; make links between their own science results and recognise where secondary sources will be most useful to research other scientific evidence; ideas and begin to separate opinion from fact; use straightforward scientific evidence to answer questions or support their findings; use relevant scientific language and illustrations to discuss, communicate and justify their scientificideas; identify similarities, differences, patterns and changes relating to simple scientific ideas and talk about how scientific ideas have developed over time. recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations.

Lower KS2 Science National Curriculum