Science Progression

Level Expected at the End of EYFS

Science		
Three and Four-Year-Olds	Communication and Language	• Understand 'why' questions, like: "Why do you think the caterpillar got so fat?"
	Personal, Social and Emotional Development	• 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 similar and/or different properties. • Talk about what they see, using a wide vocabulary. • Begin to make sense of their own life-story and family's history. • Explore how things work. • Plant seeds and care for growing plants. • Understand the key features of the life cycle of a plant and an animal. • Begin to understand the need to respect and care for the natural environment and all living things. • Explore and talk about different forces they can feel. • Talk about the differences between materials and changes they notice.

Science in EYFS

• Seasons and seasonal changes to weather and the environment – rain/ice/snow etc
• Light and dark
• Shadows
• Nocturnal and Diurnal animals
• Recycling – glass/paper/metal/plastic and non-recyclables.
• Wildlife – how litter affects the sea creatures • Floating and sinking – materials
• Healthy Eating
• Self-care – handwashing, toileting
• Dental Care – toothbrushing

Understanding the World ELG: *The Natural World* - Children at the expected level of development will: - 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.

Personal, Social and Emotional Development ELG: *Managing Self* - Children at the expected level of development will: - Be confident to try new activities and show independence, resilience and perseverance in the face of challenge; - Explain the reasons for rules, know right from wrong and try to behave accordingly; - Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.

Continuous provision for Science

- Investigation Area
- DT Bench
- Water Area
- Sand Area
- Forest Area
- Forest School
- Mud kitchen
- Indoor Creative Area
- Outdoor Creative Area
- Transient Art
- Small World
- Self-Care – toileting, hand washing, wellies, coats, aprons, blowing noses
- Snack Area: Healthy eating – fruit, milk, water

Plan

	KS1	LKS2	UKS2
	Children will explore the world around them, leading them to ask some simple scientific questions about how and why things happen. They will begin to recognise ways in which they might answer scientific questions and ask people questions, using simple secondary sources to find answers.	Children will start to raise their own relevant questions about the world around them in response to a range of scientific experiences. They will start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions and recognise when a fair test is necessary.	With growing independence, children will raise their own relevant questions about the world around them in response to a range of scientific experiences. They will explore and talk about their ideas, raising different kinds of scientific questions, asking their own questions about scientific phenomena. Children will select and plan the most appropriate type of scientific enquiry to use to answer scientific questions and make their own decisions about what observations to make, what measurements to use and how long to make them for. They will plan, set up and carry out comparative and fair tests to answer questions, including recognising and controlling variables where necessary.

Do

	Children will learn to observe the natural and humanly constructed world around them and changes over time. They will use simple measurements and equipment and make careful observations, sometimes using equipment to help them. Children will learn to carry out simple practical tests and will be able to talk about the aim of scientific tests they are working on. They will use simple features to compare objects, materials and living things and decide how to sort and classify objects into simple groups with some help.	In LKS2, children will make systematic and careful observations and continue to observe changes over time. They will use a wider range of equipment, including thermometers and data loggers and learn to take accurate measurements using standard units using a range of equipment. Children will set up and carry out simple comparative and fair tests and talk about criteria for grouping, sorting and classifying.	Children will improve their ability to choose the most appropriate equipment to make measurements and explain how to use it accurately. They will make careful and focused observations and know the importance of taking repeat readings where appropriate. Children will use and develop keys and other information records to identify, classify and describe living things and materials.

Record

	Children will learn to record and communicate findings in a range of ways with support. They will 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.	Children will collect data from their own observations and measurements, presenting their data in a variety of ways (drawings, labelled diagrams, keys, bar charts and tables) to help in answering key questions. They will be expected to use, read and spell scientific vocabulary correctly and with confidence and record findings using scientific language.	Children will independently decide how to record data from a choice of familiar approaches and record their data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar graphs and line graphs.

Review

	Children will notice links between cause and effect with support and begin to notice patterns and relationships. They will begin to draw simple conclusions and identify and discuss differences between their results. Children will be introduced to simple and scientific language and will be encouraged to talk about their findings to a variety of audiences in a variety of ways.	Children will learn to draw simple conclusions from their results, suggesting improvements to investigations and raising further questions which could be investigated. Children should report and present their results and conclusions to others in written and oral forms with increasing confidence, whilst identifying similarities, differences, patterns and changes relating to simple scientific ideas and processes. Children will recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations.	Children will be encouraged to notice patterns and draw conclusions based in their data and observations. They will be expected to look for different causal relationships in their data and discuss the degree of trust they can have in a set of results. They will then use test results to make predictions for further tests. Children will use primary and secondary sources evidence to justify ideas and use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas.

Progression of Vocabulary - Working Scientifically

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