Science Long Term Plan

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

Scientific model	
Planning and Decision Making	Cause and Effect
Change	Location and Place

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Curriculum Map A	Class 1	Which animals live in our school?	Fireworks in a jar (changing states)	Playful science (dinosaurs @ Science Centre in NCL)	Classifying trees	Growing beans in a bag Class Chicks.	Making a 'flying' aeroplane (physical processes - magnets)
		Explore the natural world around them, making observations.	*Understand important processes.*	*making observations knowing similarities and differences between the natural world around them and contrasting environments.*	*Making observations of the natural world around them.*	*Making observations.*	
	Class 2	Health and Growth	Everyday Materials	The Environment	Growing Plants	Seasonal Changes Spring-Summer	Scientists and Inventors

		Identifying and classifying	*Identifying and classifying*	*Performing simple tests using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions. Identifying and classifying.*	*Using observations and ideas to suggest answers to questions.*	*Observing closely. using observations and ideas to suggest answers to questions.*	*Observing closely. using observations and ideas to suggest answers to questions.*
	Class 3	Electricity: circuits, switches, conductors, insulators.	Habitats: grouping, classification keys, name and recognise environments	Sound: vibrations, ear, pitch, volume	Light: light sources, sun, shadows	Animals including humans: digestive system, teeth, food chains	scientists and inventors
		observing patterns, for example, that bulbs get brighter if more cells are added	*Observing Changes over Time* *Identifying and Classifying Things*	*finding patterns in the sounds that are made by different objects* *recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables* *make and play their own instruments by using what they have found out*	*setting up simple practical enquiries, comparative and fair tests* *reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions*	*Observing Changes over Time* *Comparative and Fair Testing* *making systematic and careful observations*	

				about pitch and volume.			
	Class 4	properties and changes of materials	scientists and inventors	Water usage	Forces	Earth and Space	Living things and their habitats
		-planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary *-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*	*-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*	*-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* *-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* *-recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs* *-identifying scientific evidence that has been used to support or refute ideas or arguments*	*-recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs* *-identifying scientific evidence that has been used to support or refute ideas or arguments*

Curriculum Map B		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Class 1	Which hat will keep the scarecrow dry? (physical processes -materials)	melting/freezing (physical processes/changing states)	bubbling magic potion experiment	Pond dipping	Float and sink experiment	Natural world, life cycles

	Class 2	Everyday Materials	Animals including humans (bodies, sorting)	living things and their habitats	Forces and movement	Plants	Scientists and inventors
		identifying and classifying performing simple tests using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions	*identifying and classifying*	*answering questions using their observations and ideas to suggest answers to questions*	*performing simple tests gathering and recording data to help in answering questions using their observations and ideas to suggest answers to questions*	*observing closely, using simple equipment gathering and recording data to help in answering questions using their observations and ideas to suggest answers to questions*	*performing simple tests answering questions using their observations and ideas to suggest answers to questions*
	Class 3	Forces and magnets	Rocks	States of matter	Scientists and inventors	Plants and the lifecycle	Animals: body parts, muscles, skeleton
							identifying and grouping animals with and without skeletons and observing and comparing their movement
	Class 4	Animals including humans	Animals including humans	Living things and their habitats	Evolution and inheritance	Electricity and other power sources	Light
		-planning different types of scientific enquiries to answer questions, including	*-recording data and results of increasing complexity using*	*-recording data and results of increasing complexity using*	*-reporting and presenting findings from enquiries,*	*-planning different types of scientific enquiries to answer questions, including*	*-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* *-using test results to make predictions to set up further comparative and fair tests*	*scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs* *-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*	*scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs*	*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*	*recognising and controlling variables where necessary* *-taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate* *-using test results to make predictions to set up further comparative and fair tests*	*recognising and controlling variables where necessary* *-taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate* *-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*