

NC POS		Declarative Knowledge	Procedural Knowledge	
EY	FS1	<p><u>Understanding the World:</u> Children 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. They make observations of animals and plants and explain why some things occur, and talk about changes.</p> <p><u>Expressive Arts and Design:</u></p> <ul style="list-style-type: none"> Beginning to be interested in and describe the texture of things. Uses various construction materials. Beginning to construct, stacking blocks vertically and horizontally, making enclosures and creating spaces. Joins construction pieces together to build and balance. Realises tools can be used for a purpose. 	<p><u>Understanding the World:</u></p> <ul style="list-style-type: none"> Use all their senses in hands-on exploration of natural materials. Explore collections of materials with similar and/or different properties. Talk about the differences between materials and changes they notice. <p><u>Expressive Arts & Design</u></p> <ul style="list-style-type: none"> Explore different materials freely, in order to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them. Join different materials and explore different textures. 	<p>Children explore the natural world and objects in the environment. They learn to understand questions such as 'why' questions and they begin to ask their own questions about the world around them. Children can:</p> <ul style="list-style-type: none"> Explore how things work. Explore different materials freely, in order to develop their ideas about how to use them and what to make. Explore the natural world around them, making observations and drawing pictures of animals and plants. Understand 'why' questions, like: "Why do you think the caterpillar got so fat?" ask questions to find out more and to check they understand what has been said to them Describe what they see, hear and feel whilst outside. Talk about the differences between materials and changes they notice. Understand the effect of changing seasons on the natural world around them. Explore the natural world around them, making observations and drawing pictures of animals and plants Compare sizes, weights etc. using gesture and language -'bigger/little/smaller', 'high/low', 'tall', 'heavy'. Make comparisons between objects relating to size, length, weight and capacity Compare quantities using language: 'more than', 'fewer than'. Compare length, weight and capacity Notice patterns and arrange things in patterns. Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc. Extend and create ABAB patterns –stick, leaf, stick, leaf. Notice and correct an error in a repeating pattern. Continue, copy and create repeating patterns
	FS2	<p><u>Understanding the World –</u> Children 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. They make observations of animals and plants and explain why some things occur, and talk about changes.</p> <p><u>Expressive Arts and Design</u></p> <ul style="list-style-type: none"> They safely use and explore a variety of materials, tools and techniques, experimenting with texture, form and function. 	<p><u>Understanding the World:</u></p> <ul style="list-style-type: none"> Explore the natural world around them. Describe what they see, hear and feel whilst outside. 	

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Y1	<p>Working Scientifically</p> <ul style="list-style-type: none"> 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 <p>Everyday materials</p> <ul style="list-style-type: none"> distinguish between an object and the material from which it is made identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock describe the simple physical properties of a variety of everyday materials compare and group together a variety of everyday materials on the basis of their simple physical properties 	<p>What is a scientist? 3 methods of scientific enquiry:</p> <ol style="list-style-type: none"> Carrying out comparative tests Observing changes over time Grouping and classifying <p>Know what a question is</p> <p>Everyday materials Object definition Material definition Identification of materials Physical properties</p>	<p>Carry out comparative tests with 2 variables Orally answer a question with scientific vocabulary Sort using 2 given criteria / groups Notice things that are the same.</p>
Y2	<p>Working Scientifically</p> <ul style="list-style-type: none"> 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 <p>Use of everyday materials</p> <ul style="list-style-type: none"> identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching 	<p>Method of scientific enquiry: 4. Noticing patterns</p> <p>Uses everyday materials</p> <ul style="list-style-type: none"> Suitability Solid Changing shape Manipulated Charles Macintosh 1766 – 1843 waterproof 	<ul style="list-style-type: none"> Ask a simple question Write a simple conclusion to an experiment using scientific vocabulary Sort using more than 2 groups with own criteria Find information from a given source Notice things that are different
Y3	<p>Working Scientifically</p> <ul style="list-style-type: none"> asking relevant questions and using different types of scientific enquiries to answer them setting up simple practical enquiries, comparative and fair tests 	<p>Method of scientific enquiry: 5. Fair Test</p> <ul style="list-style-type: none"> Scientific Keys <p>Rocks and soils</p> <ul style="list-style-type: none"> Sedimentary Metamorphic Igneous 	<ul style="list-style-type: none"> Ask informed questions using expressive scientific vocabulary Carry out a simple, guided, fair test To use a simple key To use a secondary source as guided by the teacher

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	<ul style="list-style-type: none"> 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 scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings. <p>Rocks</p> <ul style="list-style-type: none"> compare and group together different kinds of rocks on the basis of their appearance and simple physical properties describe in simple terms how fossils are formed when things that have lived are trapped within rock recognise that soils are made from rocks and organic matter 	<ul style="list-style-type: none"> Properties of rocks Formation of fossils Soil John McAdam 1756 – 1836 road construction Dr Jessica Holmes (Geologist) Present day! 	<ul style="list-style-type: none"> Use systematic observation to track the movement of water through a plant Write a guided conclusion using PEEL (point evidence explanation link) To use a scientific diagram in support of conclusion
Y4	<p>Working Scientifically</p> <ul style="list-style-type: none"> 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 scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings. 	<p>States of matter</p> <ul style="list-style-type: none"> Solid Liquid Gas Change of states Water cycle Joseph Priestley (CBBC) 	<ul style="list-style-type: none"> Ask a range of questions based on scientific knowledge and suggest where answers could be found. Design a simple fair test Interpret a food chain Design a simple key Identify and use a secondary source Write a clear and cohesive guided conclusion using PEEL which incorporates any data / findings. To create a guided scientific diagram in support of conclusion.

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	<p>States of matter</p> <ul style="list-style-type: none"> compare and group materials together, according to whether they are solids, liquids or gases observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature 		
Y5	<p>Working Scientifically</p> <ul style="list-style-type: none"> 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 <p>Properties and changes in materials</p> <ul style="list-style-type: none"> compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic demonstrate that dissolving, mixing and changes of state are reversible changes explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda 	<p>Properties and changes in materials</p> <ul style="list-style-type: none"> Properties of materials Transparency Solubility conductivity Reversible Irreversible John Dunlop 1840 - 1921 	<ul style="list-style-type: none"> Identify an opportunity to work scientifically drawing on their prior knowledge and learning. Create a line of enquiry for the science opportunity presented, incorporating a wide range of question types and scientific vocabulary. Design and make a key for a given purpose Identify opinion and fact when using a secondary source Look for causal relationships in data Write a conclusion which draws on all scientific vocabulary and understanding using relevant diagrams.
Y6			