

<b>Scientific Concepts</b>			
<i>1. Scientific Methods</i>	<i>2. Apparatus, measurement and recording of data</i>	<i>3. Data analysis, process, present and communicate results.</i>	<i>4. Evidence to develop explanations and draw conclusions.</i>
Knowledge of methods that scientists use to answer questions. This covers fair testing, use of models, classification, description and the identification of correlations (pattern-seeking).	Knowledge of apparatus and techniques, including measurement. The accurate measurement and recording of data and all measurement involves error and scientists reduce this.	Knowledge of data analysis. How to process and present scientific data in a variety of ways to explore relationships and communicate results.	Knowledge of how science uses evidence to develop explanations. How evidence is used to draw tentative but valid conclusions.

<b>EYFS</b>	<b>Disciplinary Knowledge &amp; Concepts</b>									
<b>Concepts</b>	<i>1. Scientific Methods</i>			<i>2. Apparatus, measurement and recording of data.</i>		<i>3. Data analysis, process, present and communicate results.</i>		<i>4. Evidence to develop explanations and draw conclusions.</i>		
<b>EYFS Working Scientifically</b>	Ask simple questions	Make simple observations	Find ways to solve problems / find new ways to do things / test ideas	Choose resources	Handle equipment and tools effectively	Create simple representations of events, people and objects	Make links and notice patterns in their experience	Develop own explanations by connecting ideas or events	Find similarities and differences	Develop simple ideas of grouping, sequences, cause and effect
<b>Nursery</b>										
Colours	X	X			X					
Festivals and Celebrations	X	X		X	X	X	X	X	X	
Travel and Transport	X	X	X	X	X	X		X	X	X
Growing	X	X		X	X	X		X		X
Animals	X	X				X				
Change	X	X				X	X	X	X	
<b>Reception</b>										
Amazing me and my Community	X	X	X	X	X	X	X	X	X	X
Celebrations and Festivals	X	X			X	X	X	X	X	X
Our Wonderful World	X	X	X	X	X	X	X	X	X	X
Growing	X	X	X		X		X	X		X
Animals	X	X			X		X	X	X	X
Our universe	X	X		X	X	X	X	X		

<b>Disciplinary Knowledge &amp; Concepts</b>									
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<b>KS1 Working Scientifically</b>	Ask simple questions & recognise that they can be answered in different ways	Perform simple tests	Identify and classify	Observe closely (including changes over time)	Use simple equipment	Gather and record simple data	Communicate data in a range of ways	Use data to help in answering questions	Use observations and ideas to suggest answers to questions
<b>Year 1</b>									
Everyday Materials	X	X	X		X	X	X	X	X
Seasonal Changes	X	X	X	X	X	X		X	X
Animals inc. Humans: Animals	X		X						X
Forces	X	X		X	X	X	X	X	X
Plants	X		X	X	X	X	X	X	X
Animals inc. Humans: Humans	X	X	X		X	X		X	X
<b>Year 2</b>									
Living Things and their Habitats	X		X	X	X	X	X	X	X
Uses of Everyday Materials	X	X	X	X		X		X	X
Animals inc. Humans: Health and Survival	X	X	X	X		X	X	X	X
Electricity	X	X		X	X	X	X	X	
Plants	X	X	X	X	X	X	X	X	X
Animals inc. Humans: Life Cycles	X		X	X	X	X	X	X	X

Lower KS2	Disciplinary Knowledge & Concepts									
Concepts	1. Scientific Methods			2. Apparatus, measurement and recording of data.		3. Data analysis, process, present and communicate results.		4. Evidence to develop explanations and draw conclusions.		
Lower KS2 Working Scientifically	Ask relevant questions	Comparative and fair tests	Systematic observations	Range of equipment (including thermometers & data loggers) to measure using standard units.	Gather, record, classify & present data in a variety of ways to help in answering questions	Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts & tables	Report on findings from enquiries, including oral & written explanations, displays or presentations of results and conclusions	Use results to draw simple conclusions, make predictions for new values, suggest improvements & raise further questions	Identify differences, similarities or changes related to simple scientific ideas & processes	Straightforward scientific evidence to answer questions or to support findings
<b>Year 3</b>										
Forces & Magnets	X	X	X	X		X	X	X		X
Rocks	X		X	X			X	X	X	
Living Things & their Habitats	X		X	X	X	X	X		X	X
Light	X	X		X	X	X	X		X	
Animals including Humans	X		X		X	X	X		X	
Plants	X	X	X		X	X	X	X		X
<b>Year 4</b>										
States of Matter	X	X	X	X	X	X		X	X	X
Electricity	X	X	X	X	X		X			X
Animals including Humans		X	X			X	X	X	X	
Sound	X	X	X	X	X	X		X		X
Living Things & their Habitats	X		X		X	X	X		X	X
Living Things & their Habitats: Conservation	X		X	X	X	X	X		X	X

Upper KS2	Disciplinary Knowledge & Concepts							
Concepts	1. Scientific Methods			2. Apparatus, measurement and recording of data.	3. Data analysis, process, present and communicate results.	4. Evidence to develop explanations and draw conclusions.		
Upper KS2 Working Scientifically	Recognise & control variables in comparative and fair tests	Systematic observations	Systematic classification	Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings.	Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.	Test results to make predictions to set up further comparative and fair tests.	Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.	Identify scientific evidence that has been used to support or refute ideas or arguments.
<b>Year 5</b>								
Light	X	X		X	X		X	X
Properties of Materials	X	X	X	X	X	X	X	
Living Things & their Habitats	X	X	X				X	X
Changes of Materials	X	X	X	X	X	X	X	X
Earth & Space		X		X		X	X	X
Animals including Humans		X		X	X		X	X
<b>Year 6</b>								
Electricity	X			X	X	X	X	
Living Things & their Habitats	X	X	X	X	X		X	X
Forces	X			X	X		X	X
Evolution & Inheritance		X	X		X		X	X
Looking after the environment		X		X	X	X	X	X
Animals including Humans	X	X		X	X		X	X

