



| | Foundation | KS1 | LKS2 | UKS2 |
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| | <p>Working scientifically</p> <ul style="list-style-type: none"> - Plants. - Animals. - Materials. - Seasonal changes. | <p>Working scientifically. Plants. Animals, including humans.</p> <p>Year 1</p> <ul style="list-style-type: none"> - Animals, including humans. - Everyday materials. - Seasonal changes. <p>Year 2</p> <ul style="list-style-type: none"> - Living things and their habitats. - Plants. - Animals, including humans. - Uses of everyday materials. | <p>Working scientifically.</p> <p>Year 3</p> <ul style="list-style-type: none"> - Plants. - Animals, including humans. - Rocks. - Light. - Forces and magnets. <p>Year 4</p> <ul style="list-style-type: none"> - Living things and their habitats. - Animals, including humans. - States of matter. - Sound. - Electricity. | <p>Working scientifically.</p> <p>Year 5</p> <ul style="list-style-type: none"> - All living things and their habitats. - Animals, including humans. - Properties and changes of materials. - Earth and space. - Forces. <p>Year 6</p> <ul style="list-style-type: none"> - Living things and their habitats. - Animals, including humans. - Evolution and inheritance. - Light. - Electricity. |

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| <p>Asking Questions and Carrying Out Fair and Comparative Tests</p> | <p>Asking simple questions and making comments.</p> <p>Perform simple tests.</p> <p>Children can:</p> <ul style="list-style-type: none"> • Explore the world around them, leading them to ask some simple scientific questions about how and why things happen; • Carry out simple practical tests, using simple equipment; • Begin to recognise a fair test. | <p>Asking simple questions and recognising that they can be answered in different ways.</p> <p>Performing simple tests.</p> <p>Children can:</p> <ul style="list-style-type: none"> • Explore the world around them, leading them to ask some simple scientific questions about how and why things happen; • Begin to recognise ways in which they might answer scientific questions; • Ask people questions and use simple secondary sources to find answers; • Carry out simple practical tests, using simple equipment; • Experience different types of scientific enquiries, including practical activities; • Talk about the aim of scientific tests they are working on; • With support, start to recognise a fair test. | <p>Asking relevant questions and using different types of scientific enquiries to answer them.</p> <p>Setting up simple practical enquiries, comparative and fair tests.</p> <p>Children can:</p> <ul style="list-style-type: none"> • Start to raise their own relevant questions about the world around them in response to a range of • Scientific experiences; • Start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions; • Recognise when a fair test is necessary; • 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; • Set up and carry out simple comparative and fair tests. | <p>Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Using test results to make predictions to set up further comparative and fair tests.</p> <p>Children can:</p> <ul style="list-style-type: none"> • With growing independence, raise their own relevant questions about the world around them in response to a range of scientific experiences; • With increasing independence, make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions; • Explore and talk about their ideas, raising different kinds of scientific questions; • Ask their own questions about scientific phenomena; • 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; • Plan, set up and carry out comparative and fair tests to answer questions, including recognising and controlling variables where necessary; • Use their test results to identify when further tests and observations may be needed; • Use test results to make predictions for further tests. |
| <p>Observing and measuring changes</p> | <p>Look closely at similarities, differences, patterns and changes.</p> <p>Children can:</p> | <p>Observing closely, using simple equipment.</p> <p>Children can:</p> <ul style="list-style-type: none"> • Observe the natural and humanly constructed world around them; | <p>Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</p> | <p>Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</p> <p>Children can:</p> |

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| | <ul style="list-style-type: none"> Talk about what they have observed such as plants; animals; natural and man-made objects. | <ul style="list-style-type: none"> Observe changes over time; Observe closely, using simple measurements and equipment; Make careful observations, sometimes using equipment to help them observe carefully. | <p>Children can:</p> <ul style="list-style-type: none"> Make systematic and careful observations; 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. | <ul style="list-style-type: none"> Choose the most appropriate equipment to make measurements and explain how to use it accurately; 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. |
| Identifying, Classifying, Recording and Presenting Data | <p>Identifying and classifying.</p> <p>Children can:</p> <ul style="list-style-type: none"> Identify and classify plants; animals; natural and man-made objects. | <p>Identifying and classifying.</p> <p>Gathering and recording data to help in answering questions.</p> <p>Children can:</p> <ul style="list-style-type: none"> Use simple features to compare objects, materials and living things; Decide how to sort and classify objects into simple groups with some help; Gather, record and communicate findings in a range of ways with support to help answer questions; 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. | <p>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.</p> <p>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</p> <p>Children can:</p> <ul style="list-style-type: none"> Talk about criteria for grouping, sorting and classifying; Group and classify things; Collect data from their own observations and measurements; 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. | <p>Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p> <p>Children can:</p> <ul style="list-style-type: none"> 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 | <p>Using their observations.</p> <p>Children can:</p> | <p>Using their observations and ideas to suggest answers to questions.</p> <p>Children can:</p> | <p>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> | <p>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.</p> |

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| | <ul style="list-style-type: none"> • Develop an understanding of growth, decay and changes over time. • Look closely at similarities, differences, patterns and changes. | <ul style="list-style-type: none"> • Notice links between cause and effect with support; • Begin to notice patterns and relationships with support; • Begin to draw simple conclusions; • Identify and discuss differences between their results; • 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; • Talk about their findings to a variety of audiences in a variety of ways. | <p>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Children can:</p> <ul style="list-style-type: none"> • Draw simple conclusions from their results; • Make predictions; • Suggest improvements to investigations; • 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. | <p>Children can:</p> <ul style="list-style-type: none"> • Notice patterns; • Draw conclusions based in their data and observations; • Use their scientific knowledge and understanding to explain their findings; • Read, spell and pronounce scientific vocabulary correctly; • Identify patterns that might be found in the natural environment; • Look for different causal relationships in their data; • Discuss the degree of trust they can have in a set of results; • Independently report and present their conclusions to others in oral and written forms. |
| <p>Using Scientific Evidence and Secondary Sources of Information</p> | <p>NA</p> | <p>NA</p> | <p>Identifying differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Using straightforward scientific evidence to answer questions or to support their findings.</p> <p>Children can:</p> <ul style="list-style-type: none"> • Make links between their own science results and other scientific evidence; • Use straightforward scientific evidence to answer questions or support their findings; • Identify similarities, differences, patterns and changes relating to simple scientific ideas and processes; • Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations. | <p>Identifying scientific evidence that has been used to support or refute ideas or arguments.</p> <p>Children can:</p> <ul style="list-style-type: none"> • Use primary and secondary sources evidence to justify ideas; • Identify evidence that refutes or supports their ideas; • Recognise where secondary sources will be most useful to research ideas and begin to separate opinion from fact; • Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas; • Talk about how scientific ideas have developed over time. |