



**St Bartholomew's C of E Primary School**  
**Progression of Skills for Science**  
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**St Bartholomew's C of E Primary School Progression of Skills for Science**

As the curriculum for Science includes biology, chemistry and physics and encompasses a range of disciplines, the skills progression for each is detailed separately below. The EYFS curriculum does not separate the subjects and disciplines as exclusive teaching areas so the skills progression encompasses all these through the Early Learning Goals, the New EYFS framework and DfE Guidance from the Development Matters 2021 Documents.

**EYFS**

**Early Learning Goal**

Understanding the 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.

*Physical Development, Children will have met the standards of development matters.*

Class Teachers Subject leaders will use the guidance from the Department for Education 's Development Matters Document 2021 to determine progression and children's corresponding attainment. (Pages 59 PD and 99UW onwards)

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 6</b>
<b>EXPLORING / OBSERVING UKS2 - Developing a deeper understanding of a wide range of scientific ideas and encountering more abstract ideas. LKS2 - Developing their own ideas and their understanding of the world around them. KS1 - Observing</b>	<ul style="list-style-type: none"> <li>▪ Begin to use simple scientific language (from Y1 PoS) to talk about or record what they have noticed. Use observations to make suggestions and / or ask questions. Look</li> </ul>	Use simple scientific language from the Y2 PoS to talk about / record what they have noticed. Use observations to make suggestions and / or ask questions. Observe and	<ul style="list-style-type: none"> <li>▪ Observe and record relationships between structure and function (linked to Y3 PoS). Observe and record changes /stages over time (linked to Y3 PoS). Explore / observe things in the local environment /</li> </ul>	<ul style="list-style-type: none"> <li>▪ Suggest their own ideas on a concept and compare these with what they observe / find out. Use observations to suggest what to do next. Discuss ideas and develop descriptions from their</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use their developing scientific knowledge and understanding and relevant scientific language and terminology to discuss, communicate and explain their</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use correct scientific knowledge and understanding and relevant scientific language to discuss their observations and explorations (linked to Y6 PoS). Identify changes that have occurred over a very long period of time (evolution) and discuss how changes have impacted the</li> </ul>



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<p><b>closely Using their observations and ideas to suggest answers to questions.</b></p>	<p>/ observe closely and communicate changes over time. Look / observe closely and communicate the features or properties of things in the real world. Observe closely using their senses.</p>	<p>describe simple processes / cycles / changes with several steps (e.g. growth cycle, simple food chain, saying how living things depend on one another). Observe closely and communicate with increasing accuracy the features or properties of things in the real world.</p>	<p>real contexts and record observations (linked to Y3 PoS) – see 'Communicating' section also re links to vocabulary.</p>	<p>observations using relevant scientific language and vocabulary (from Y4 PoS). Observe and record relationships between structure and function or between different parts of a processes (linked to Y4 PoS). Observe and record changes / stages over time (linked to Y4 PoS).</p>	<p>observations (incl. more abstract ideas from Y5 PoS (e.g. friction, air resistance, forces, Earth and space, reversible and irreversible changes). Evaluate their observations and suggest a further test, offer another question or make a prediction. Observe (including changes over time) and suggest a reason for what they notice.</p>	<p>world. Explore more abstract systems / functions / changes / behaviours and record their understanding of these (e.g. the relationship between diet, exercise, drugs, lifestyle and health; evolutionary changes; how light travels).</p>
<p><b>GROUPING AND CLASSIFYING UKS2 - Compare and contrast a variety of examples linked to</b></p>	<ul style="list-style-type: none"> <li>▪ Name / identify common examples and some common</li> </ul>	<ul style="list-style-type: none"> <li>▪ Name / identify common examples, some common features or</li> </ul>	<ul style="list-style-type: none"> <li>▪ Decide ways and give reasons for sorting, grouping, classifying, identifying things</li> </ul>	<ul style="list-style-type: none"> <li>▪ Make a simple guide to local living things. Use guides or simple keys to</li> </ul>	<ul style="list-style-type: none"> <li>▪ Suggest reasons for similarities and differences. Compare and</li> </ul>	<p>Recognise the importance of classification to the scientific world and form a conclusion</p>

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<p><b>UKS2 PoS. LKS2 - Compare and contrast a variety of examples linked to LKS2 PoS. KS1 - Compare and contrast a variety of examples linked to KS1 PoS.</b></p>	<p>features. With help, decide how to sort and group objects, materials or living things. Name basic features of objects, materials and living things. Say how things are similar or different. Compare and contrast simple observable features / characteristics of objects, materials and living things.</p>	<p>different uses. Sort and group objects, materials or living things by observable and/or behavioural features. Compare and contrast... a variety of things [objects, materials or living things] - focusing on the similarities as well as the differences.</p>	<p>/ objects, living things, processes or events based on specific characteristics. Compare and contrast and begin to consider the relationships between different things (e.g. structures of plants, functions of plant parts, diets, skeletons of humans and other animals, changes over time, etc.). Record similarities as well as differences (e.g. what do all skeletons have? as well as the differences between skeletons.</p>	<p>classify / identify [animals, flowering plants and non-flowering plants]. Use their observations to identify and classify. Begin to give reasons for these similarities and differences. Record similarities as well as differences and / or changes related to simple scientific ideas or processes or more complex groups of objects / living things / events (e.g. evaporation and condensation,</p>	<p>contrast things beyond their locality and use these similarities and differences to help to classify (e.g. features of animals, life cycles of different living things, melting compared with dissolving, etc). Use secondary sources of information to identify and classify. Decide which sources of information (and / or equipment and / or test) to help identify and classify.</p>	<p>from their sorting and classifying. Compare and contrast more complex processes, systems, functions (e.g. sexual and asexual reproduction). Construct a classification key / branching database using more than two items. Compare and contrast things beyond their locality and discuss advantages / disadvantages, pros / cons of the similarities and differences. Use research* to identify and classify things. Use classification systems, keys and other information records [databases] to help classify or identify things.</p>
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				different food chains, different electrical circuits).		
<p><b>QUESTIONING UKS2 - Asking their own questions about scientific phenomena. LKS2 - Asking relevant questions. KS1 - Asking simple questions.</b></p>	<ul style="list-style-type: none"> <li>Ask simple questions about what they notice about the world around them. Demonstrate curiosity by the questions they ask.</li> </ul>	<ul style="list-style-type: none"> <li>Raise their own logical questions based on or linked to things they have observed. With help / scaffolds, begin to ask questions such as 'What will happen if...?'</li> </ul>	<ul style="list-style-type: none"> <li>Explore their own ideas about 'what if....?' scenarios e.g. humans did not have skeletons. Ask questions such as 'What if we tried....?' or 'What if we changed...?' Begin to understand that some questions can be tested in the classroom and some cannot. Within a group suggest questions that can be explored, observed, tested or investigated further. Within a group suggest relevant questions about</li> </ul>	<ul style="list-style-type: none"> <li>Ask / raise their own relevant questions with increasing confidence and independence that can be explored, observed, tested or investigated further. Ask questions such as 'What will happen if...?' or 'What if we changed...?' (linked with Y4 PoS). Choose / select a relevant question that can be answered [by research or</li> </ul>	<ul style="list-style-type: none"> <li>Recognise scientific questions that do not yet have definitive answers (linked to Y5 PoS). Refine a scientific question so that it can be tested e.g. 'What would happen to... if we changed...?' Decide whether their questions can be answered by researching or by testing. Independently ask their own scientific questions taking some</li> </ul>	<ul style="list-style-type: none"> <li>Recognise scientific questions that do not yet have definitive answers (linked to Y6 PoS). Refine a scientific question to make it testable i.e. ask a testable question which includes the change and measure variables, e.g. what would happen to...if we changed...? e.g. What effect would we have on ... if we...? e.g. How would exercise affect the pulse rate? Use observations to suggest a further (testable or research) question. Independently ask a variety of scientific questions and decide the type of</li> </ul>



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			what they observe and about the world around them.	experiment / test].	ownership for finding out the answers.	enquiry needed to answer them.
<b>RESEARCH UKS2 – Summarise research from a wide variety of sources and recognising that scientific ideas change and develop over time. LKS2 - Finding things out using a wide range of secondary sources of information. KS1 - Finding things out using secondary sources of information.</b>	<ul style="list-style-type: none"> <li>Ask people questions (e.g. an expert or hot-seating). Use simple primary and secondary sources (such as objects, books and photographs) to find things out.</li> </ul>	<ul style="list-style-type: none"> <li>Talk about how useful the information source was and express opinion about findings. Make suggestions about who to ask or where to look for information. Ask people questions to help them answer their questions. Use simple and appropriate secondary sources (such as books, photographs, videos and other technology) to find things out / find answers.</li> </ul>	<ul style="list-style-type: none"> <li>Find things out using a range of secondary sources of information (e.g. books, photographs, videos and other technology).</li> </ul>	<ul style="list-style-type: none"> <li>Make decisions about which information to use from a wide range of sources and make decisions about how to present their research. Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations.</li> </ul>	<ul style="list-style-type: none"> <li>Find out how scientific ideas have changed / developed over time (linked to Y5 PoS). Articulate and explain findings from their research using scientific knowledge and understanding. Make decisions about which information to use from a wide range of sources.</li> </ul>	<ul style="list-style-type: none"> <li>Research how scientific ideas have developed over time and had an impact on our lives. Use evidence from a variety of sources to justify their ideas. Recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact. Interview people to find out information</li> </ul>



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<p><b>MODELLING Non Statutory Using dance, drama or a visual aid to represent science in the real world.</b></p>	<ul style="list-style-type: none"> <li>With help, follow movements (dance / drama) to act out their science.</li> </ul>	<ul style="list-style-type: none"> <li>Act out something to represent something else about the world around us (e.g a life cycle).</li> </ul>	<p>Act out or make a model of something to represent something in the real world using appropriate scientific vocabulary verbally.</p>	<ul style="list-style-type: none"> <li>Make a visual representation or a model of something to represent something they have seen or a process that is difficult to see. Suggest their own ideas on a concept and compare these with models or images.</li> </ul>	<ul style="list-style-type: none"> <li>Perform / create simple models to exemplify scientific ideas using scientific terminology where appropriate (e.g. spheres to represent movements of the Sun and Earth, solar system models, shadow clocks, a simple lever or mechanism).</li> </ul>	<ul style="list-style-type: none"> <li>Make / perform and use their own versions of simple models to describe and explain scientific ideas (e.g. circulatory system drama, periscopes to explain how light travels, burglar alarm to explain components in a circuit).</li> </ul>
<p><b>COLLABORATING Non Statutory Interacting effectively as part of a group.</b></p>	<ul style="list-style-type: none"> <li>Share ideas in a group and listen to the ideas of others. Work with others on a science task.</li> </ul>	<ul style="list-style-type: none"> <li>Share ideas in a group and listen to the ideas of others. Work cooperatively with others on a science task making some choices.</li> </ul>	<p>Begin to make some decisions about an idea within a group from a list of choices (e.g. let's put them all in a pile first OR I think we should try...). With help; support, listen to and acknowledge others in the group</p>	<ul style="list-style-type: none"> <li>Make some decisions about an idea within a group (e.g. I think we should find out by testing...) Increasingly support, listen to and acknowledge others in the group. Build on</li> </ul>	<ul style="list-style-type: none"> <li>Propose their own ideas and make decisions with agreement in a group. Support, listen to and acknowledge others in the group e.g. Yes. I prefer that one too.</li> </ul>	<ul style="list-style-type: none"> <li>Propose their own ideas and make decisions with agreement in a group. Support, listen to and acknowledge others in the group. Check the clarity of each other's suggestions. Build on / add to someone else's idea to improve a plan or</li> </ul>

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			(e.g. Yes. I prefer that one too). Build on / add to someone else's idea. (e.g. we could use x as well as y). Begin to understand that it is okay to disagree with their peers and offer a reason for their opinion.	/ add to someone else's idea to improve a plan. Understand that it is okay to disagree with their peers and offer reasons for their opinion.	Check the clarity of each other's suggestions e.g. are you saying you think this one is a herbivore? Build on / add to someone else's idea to improve a plan or suggestion. Understand that it is okay to disagree with their peers and offer a reasons for their opinion.	suggestion. Understand that it is okay to disagree with their peers and offer reasons for their opinion.
<b>PLANNING AND TESTING UKS2 - Using different types of scientific enquiry making decisions about and explaining choices for testing. LKS2 - Making decisions about and setting up simple practical enquiries,</b>	<ul style="list-style-type: none"> <li>With help, carry out a simple test / comparative test. With help, make a simple prediction or suggestion about what might happen. Begin to suggest some</li> </ul>	<ul style="list-style-type: none"> <li>Carry out simple comparative tests as part of a group, following a method with some independence. Make a simple prediction about what</li> </ul>	<ul style="list-style-type: none"> <li>Help to decide about how to set up a simple fair test and begin to recognise when a test is not fair. Make a prediction based on everyday experience. With support / as a group, set up</li> </ul>	<ul style="list-style-type: none"> <li>Carry out simple fair tests with increasing confidence investigating the effect of something on something else (linked to Y4 PoS). Start to make their own decisions about</li> </ul>	Carry our fair tests and other investigations with increasing independence. Suggest more than one possible prediction and begin to suggest which is the most likely.	<ul style="list-style-type: none"> <li>Predict what a graph might look like before collecting results. Make a hypothesis where they say how one thing will affect another and give a reason for their suggestion with a developing understanding of the scientific concept.</li> </ul>



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<b>comparative tests and fair tests. KS1 - Performing simple tests.</b>	ideas e.g. choose which equipment to use, choose which materials to test from a selection. Talk about ways of setting up a test.	might happen and try to give a vague reason (even though it might not be correct). With support, make suggestions on a method for setting up a simple comparative test. Talk about a practical way to find answers to their questions.	simple practical enquiries including comparative and fair tests e.g. make a choice from a list of a things (variables) to change when conducting a fair test. (e.g. choose which magnets to compare and which method to use to test their strength). As a group, begin to make some decisions about the best way of answering their questions. Find / suggest a practical way to compare things e.g. rocks, magnets.	the most appropriate type of science enquiry they might use to answer scientific questions (is a fair test the best way to investigate their question?) Make a prediction based on the knowledge acquired from previous explorations / observations and apply it to a new situation. Explain their planning decisions and choices. Make some of the planning decisions about what to change and measure /	Justify their reason with some knowledge and understanding of the scientific concept. Make decisions about which variables to change, measure and keep the same (linked to the appropriate units in the Y5 PoS). Make most of the planning decisions for an investigation. Recognise when it is appropriate to carry out a fair test.	Identify variables to change, measure and keep the same in order for a test to be fair. Independently plan investigations and explain planning decisions. Decide when it is appropriate to carry out a fair test investigation, comparative test or alternative.
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				observe. Begin to recognise when a fair test is necessary.		
<b>USING EQUIPMENT AND MEASURES UKS2 - Increasing complexity and increasing accuracy and precision Make their own decisions about the data to collect. LKS2 - Making accurate measurements and gathering data. KS1 - Using simple equipment and gathering data to help in answering their questions.</b>	<ul style="list-style-type: none"> <li>Measure using non-standard units e.g. how many lolly sticks / cubes / handfuls, etc. Observe closely, using simple equipment (e.g. hand lenses, egg timers). Use senses to compare different textures, sounds and smells.</li> </ul>	<ul style="list-style-type: none"> <li>Measure using non-standard and simple standard measures (e.g. cm, time) with increasing accuracy. Begin to make decisions about which equipment to use. Correctly and safely use equipment provided to make observations and/or take simple measurements.</li> </ul>	<p>Collect data from their own observations and measurements using notes / simple tables / standard units. Help to make some decisions about what observations to make, how long to make them for, the type of simple equipment that might be used and how to work safely. Make simple accurate measurements using whole number standard units, using a range of equipment. Gather data in a variety of ways to help in answering</p>	<ul style="list-style-type: none"> <li>Begin to identify where patterns might be found and use this to begin to identify what data to collect. Make more of the decisions about what observations to make, how long to make them for and the type of equipment that might be used. Recognise obvious risks and how to keep themselves and others safe. Learn how to use new equipment, such as data</li> </ul>	<ul style="list-style-type: none"> <li>Make their own decisions about what observations to make or measurements to use and how long to take them for (recognising the need for repeat readings on some occasions). Take measurements using a range of scientific equipment with increasing accuracy and using more complex scales / units. Identify possible risks to themselves</li> </ul>	<ul style="list-style-type: none"> <li>Decide whether to repeat any readings and justify the reason for doing so. Make their own decisions about what measurements to take (and begin to identify the ranges used). Make, and act on, suggestions to control / reduce risks to themselves and others. Use equipment fit for purpose to take measurements which are increasingly accurate and precise. Decide the most appropriate equipment to use to collect data.</li> </ul>



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			<p>questions. Use equipment accurately to improve the detail of their measurements / observations (e.g. microscopes, measuring syringes, measuring cylinders, hand lenses).</p>	<p>loggers and measure temperature in degrees Celsius (°C) using a thermometer. Collect data from their own observations and measurements, using notes / simple tables / standard units. Make accurate measurements using standard units [and more complex units and parts of units] using a range of equipment and scales.</p>	<p>and others and suggest ways of reducing these. Choose the most appropriate equipment and make accurate measurements.</p>	
<p><b>COMMUNICATING UKS2 / LKS2 / KS1 Reporting findings, recording data, presenting findings. Read, spell and pronounce scientific vocabulary correctly</b></p>	<p>Communicate their ideas to a range of audiences in a variety of ways. Complete a pre-constructed table / chart</p>	<ul style="list-style-type: none"> <li>▪ Record and communicate their findings in a range of ways to a variety of audiences. Use simple</li> </ul>	<ul style="list-style-type: none"> <li>▪ Record and present findings using simple scientific language and vocabulary from the Y3 PoS, including</li> </ul>	<ul style="list-style-type: none"> <li>▪ Record findings using relevant scientific language and vocabulary (from Y4 PoS), including discussions, oral</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use their developing scientific knowledge and understanding and relevant scientific</li> </ul>	<ul style="list-style-type: none"> <li>▪ Articulate understanding of the concept using scientific language and terminology when describing abstract ideas, observations and</li> </ul>



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<p><b>linked to the relevant Year Group.</b></p>	<p>using picture records or simple words. Contribute to a class display. Add annotations to drawings or photographs. Begin to use some simple scientific language from Y1 PoS. Record simple visual representations of observations made.</p>	<p>scientific language with increasing accuracy (from Y2 PoS). Record simple data with some accuracy to help in answering questions; With support or using frameworks, make decisions about how to complete a variety of tables/charts (e.g. a 2 column table, tally charts, Venn diagram, pictograms, block graphs with 1:1 scale). Present findings in a class displays. Sequence / annotate photographs of</p>	<p>discussions, oral and written explanations, notes, annotated drawings, pictorial representations, labelled diagrams, simple tables, bar charts (using scales chosen for them), displays or presentations. With scaffold / support record, and present data in a variety of ways to help in answering questions. Communicate their findings in ways that are appropriate for different audiences. (linked to Y3 PoS).</p>	<p>and written explanations, notes, drawings (annotated), pictorial representations, labelled diagrams, tables and bar charts [where intervals and ranges agreed through discussion], displays or presentations. Begin to select the most useful ways to collect, record, classify and present data from a range of choices. Make decisions on how best to communicate their findings in ways that are appropriate for different audiences.</p>	<p>language and terminology to communicate more abstract concepts (linked to Y5 PoS). Present and explain their findings through talk, in written forms or in other ways (e.g. using technology) for a range of audiences / purposes. Record data and results of increasing complexity using different formats e.g. tables, annotated scientific diagrams, classification keys, graphs and models. Make decisions</p>	<p>findings (linked to the Y6 PoS). Record data and results of increasing complexity using scientific diagrams and labels, recognised symbols, classification keys, tables, bar and line graphs, and models. Make decisions about how to present and explain their findings through talk, in written forms or in other ways (e.g. using technology).</p>
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			change over time. Produced increasingly detailed drawings which are labelled / annotated.			about the most appropriate way of recording data.	
<b>CONSIDERING THE RESULTS OF AN INVESTIGATION / WRITING A CONCLUSION</b>	<b>DESCRIBING RESULTS / LOOKING FOR PATTERNS UKS2 - Looking for patterns analysing functions, relationships and interactions more systematically. LKS2 - Describing their findings / results. KS1 - Talk about what happened / what they noticed.</b>	<ul style="list-style-type: none"> <li>Use recordings to talk about and describe what happened. Sequence photographs of an event / observation.</li> </ul>	<ul style="list-style-type: none"> <li>With guidance, begin to notice patterns in their data e.g. order their findings, sequence best to worst, say what happened over time, etc. Recognise if results matched predictions (say if results were what they expected). Use their recordings to talk about and describe what has happened.</li> </ul>	<ul style="list-style-type: none"> <li>With scaffold / support, describe and compare the effect of different factors on something (e.g. we noticed that larger magnets are not always stronger). With help, look for changes and simple patterns in their observations, data, chart or graph. Use their results to consider whether they met their predictions.</li> </ul>	<ul style="list-style-type: none"> <li>Notice / find patterns in their observations and data. (Describe the effect of something on something else). (e.g. as I lengthen the ruler I notice that the pitch gets lower). With some independence, analyse results / observations by writing a sentence that matches the evidence i.e. deciding the important aspect of the result and</li> </ul>	<ul style="list-style-type: none"> <li>Describe straightforward patterns in results linking cause and effect e.g. using er or the word 'more' (e.g. the longer, thinner shapes move through the water more quickly OR the larger the wings, the longer it takes the spinner to fall). Look for / notice relationships between things and begin to describe these.</li> </ul>	<ul style="list-style-type: none"> <li>Spot unexpected results that do not fit the pattern (anomalies). Identify patterns in results collected and describe them using the change and measure variables (causal relationships) (e.g. as we increased the number of batteries the brightness the bulb increased).</li> </ul>



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					summarising in a conclusion (e.g. metals tend to be good conductors of electricity).	Comment on the results and whether they support the initial prediction.	
<p><b>EXPLAINING RESULTS UKS2 - Draw conclusions based on / supported by evidence.</b></p> <p><b>LKS2 - Reporting on findings saying why something happened.</b></p> <p><b>KS1 - Talk about what they found out.</b></p>	<ul style="list-style-type: none"> <li>Begin to use simple scientific language (from Y1 PoS) to talk about what they have found out or why something happened.</li> </ul>	<ul style="list-style-type: none"> <li>Begin to use simple scientific language (from Y2 PoS) to explain what they have found out. Give a simple, logical reason why something happened (e.g. I think ... because...).</li> </ul>	<ul style="list-style-type: none"> <li>Use their experience and some evidence or results to draw a simple conclusion to answer their original question. Write a simple explanation of why things happened (using the word 'because') and using simple scientific language and vocabulary from the Y3 PoS.</li> </ul>	<ul style="list-style-type: none"> <li>Begin to develop their ideas about relationships and interactions between things and explain them. Use relevant scientific language and vocabulary (from Y4 PoS) to begin to say / explain why something happened.</li> </ul>	<ul style="list-style-type: none"> <li>Use their scientific knowledge and understanding and appropriate scientific language and terminology (linked to Y5 PoS) to explain their findings and data and answer their initial question. Draw a valid conclusion (explain why it happened) based on their data and observations (from Y5 PoS).</li> </ul>	<ul style="list-style-type: none"> <li>Identify evidence that refutes or supports their ideas. Independently form a conclusion which draws on the evidence from the test (linked to Y6 PoS). Use scientific language and terminology (linked to Y6 PoS) to explain why something happened.</li> </ul>	



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	<p><b>TRUSTING RESULTS UKS2 - Comment on how reliable the data is. LKS2 - Suggest improvements for further tests. KS1 – Beginning to spot when a method is not fair.</b></p>	<p>NA</p>	<p>Begin to discuss if the test was unfair.</p>	<ul style="list-style-type: none"> <li>▪ Say whether what happened was what they expected and notice any results that seem odd. Begin to recognise when a test is not fair and suggest improvements.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use results to suggest improvements, new questions and / or predictions for setting up further tests. Compare their results with others and give reasons why results might be different.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Begin to recognise how repeated readings improve the reliability of results. Compare results with others and comment on how reliable they are.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Be able to suggest reasons for unexpected results (anomalies). Describe how to improve planning to produce more reliable results. Say how confident they are that their results are reliable and give a reason.</li> </ul>
<p><b>Animals including Humans</b></p>	<p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Identify and name a variety of common animals that are carnivores, herbivores and omnivores. Describe and compare the structure of a</p>	<p>Notice that animals, including humans, have offspring which grow into adults. Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) Describe the importance for humans of exercise, eating</p>	<p>Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>	<p>Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions. Construct and interpret a variety of food chains, identifying producers,</p>	<p>Describe the changes as humans develop to old age.</p>	<p>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Recognise the impact of diet, exercise; drugs and lifestyle on the way their bodies function describe the ways in which nutrients and water are transported with animals, including humans.</p>	



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	variety of common animals (fish, amphibians, reptiles, birds and mammals, and including pets). Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	the right amounts of different types of food, and hygiene		predators and prey.		
<b>Plants</b>	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, including trees.	Observe and describe how seeds and bulbs grow into mature plants. Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy ( <i>and how changing</i>	Identify, locate and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how			



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		<i>these, affects the plant).</i>	they vary from plant to plant. Investigate the way in which water is transported within plants. Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.			
<b>Everyday Materials</b>	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, rock ( <i>and brick, paper and cardboard</i> ). Describe the simple physical	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, water, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can				





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	properties of a variety of everyday materials. Compare and group together a variety of everyday materials on the basis of their simple physical properties.	be changed by squashing, bending, twisting and stretching (applying a force).				
<b>Seasonal Changes</b>	Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies.					
<b>Living Things and their Habitats</b>		Explore and compare the differences between things that are living, dead, and things that have never been alive .Identify		Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group, identify and name a	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird describe the life process of reproduction	Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro



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		<p>that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. Identify and name a variety of plants and animals in their habitats, including micro-habitats. Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and</p>		<p>variety of living things in their local and wider environment. Construct and interpret a variety of food chains, identifying producers, predators and prey. Recognise that environments can change and that this can sometimes pose dangers to living things.</p>	<p>in some plants and animals.</p>	<p>organisms, plants and animals .Give reasons for classifying plants and animals based on specific characteristics.</p>
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		name different sources of food.				
<b>Rocks and Soils</b>			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.			
<b>Light</b>			Recognise that they need light in order to see things and that dark is the absence of light. Notice that light is reflected			Recognise that light appears to travel in straight lines. Use the idea that light travels in straight lines to explain that objects are seen because



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			<p>from surfaces. Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. Recognise that shadows are formed when the light from a light source is blocked by a solid object. Find patterns in the way that the size of shadows can change.</p>			<p>they give out or reflect light into the eye. Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p>
<b>Forces and Magnets</b>			<p>Compare how some things move on different surfaces. Notice that some forces need contact between two objects but magnetic forces can act at a distance. Observe how magnets attract or repel each other and attract some</p>		<p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Identify the effects of air resistance, water resistance and</p>	



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			materials and not others. Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. Describe magnets as having two poles ( <i>like and unlike poles</i> ). Predict whether two magnets will attract or repel each other, depending on which poles are facing.		friction that act between moving surfaces. Friction, air resistance and water resistance are forces which slow down moving objects. Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	
<b>States of Matter</b>				Compare and group materials together, according to whether they are solids, liquids or gases. Observe that some materials		



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				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.		
<b>Sound</b>				Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a		



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				medium to the ear. Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases.		
<b>Electricity</b>				Identify common appliances that run on electricity. Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Identify whether or not a lamp		Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. Use recognised



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				<p>will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery. Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp, lights in a simple series circuit. Recognise some common conductors and insulators, and associate metals with being good conductors.</p>		<p>symbols (at least: cells, wires, switches, bulbs, buzzers and motors) when representing a simple circuit in a diagram.</p>
<p><b>Properties and changes of materials</b></p>					<p>Compare and group together everyday materials on the basis of their properties, including their hardness,</p>	





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					<p>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</p>	
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					<p>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>	
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<b>Earth and Space</b>					Describe the movement of The Earth, and other planets, Relative to the Sun in the solar system Describe the movement of the Moon relative to the Earth Describe the Sun, Earth and Moon as approximately spherical bodies. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	
<b>Evolution and Inheritance</b>						Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.



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						Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.
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