



Year 3 Science Knowledge

4	<ul style="list-style-type: none"> Suggest their own ideas on a concept and compare these with what they observe / find out. Use observations to suggest what to do next <u>Discuss ideas and develop descriptions from their observations using relevant scientific language and vocabulary</u> (from Y4 PoS) <u>Observe and record relationships between structure and function or between different parts of a processes</u> (linked to Y4 PoS) <u>Observe and record changes /stages over time</u> (linked to Y4 PoS) 	<ul style="list-style-type: none"> <u>Make a simple guide to local living things.</u> <u>Use guides or simple keys to classify / identify [animals, flowering plants and non-flowering plants].</u> Use their observations to identify and classify <u>Begin to give reasons for these similarities and differences.</u> 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. <i>evaporation and condensation, different food chains, different electrical circuits</i>) 	<ul style="list-style-type: none"> <u>Ask/raise their own relevant questions with increasing confidence and independence that can be explored, observed, tested or investigated further</u> Ask questions such as 'What will happen if...?' or 'What if we changed...?' (linked with Y4 PoS) <u>Choose/select a relevant question that can be answered [by research or experiment / test].</u> 	<ul style="list-style-type: none"> <u>Make decisions about which information to use from a wide range of sources and make decisions about how to present their research</u> Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations. 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Make some decisions about an idea within a group (e.g. <i>I think we should find out by testing...</i>) Increasingly support, listen to and acknowledge others in the group Build on / 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
3	<ul style="list-style-type: none"> <u>Observe and record relationships between structure and function</u> (linked to Y3 PoS) Observe and record changes /stages over time (linked to Y3 PoS) Explore / observe things in the local environment / real contexts and record observations (linked to Y3 PoS) – see 'Communicating' section also re links to vocabulary 	<ul style="list-style-type: none"> <u>Decide ways and give reasons for sorting, grouping, classifying, identifying things/objects, living things, processes or events based on specific characteristics</u> <u>Compare and contrast and begin to consider the relationships between different things</u> (e.g. <i>structures of plants, functions of plant parts, diets, skeletons of humans and other animals, changes over time, etc.</i>) Record similarities as well as differences (e.g. <i>what do all skeletons have? as well as the differences between skeletons</i>) 	<ul style="list-style-type: none"> 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...?' <u>Begin to understand that some questions can be tested in the classroom and some cannot.</u> Within a group suggest questions that can be explored, observed, tested or investigated further <u>Within a group suggest relevant questions</u> about what they observe and about the world around them. 	<ul style="list-style-type: none"> <u>Find things out using a range of secondary sources of information</u> (e.g. <i>books, photographs, videos and other technology</i>) 	<ul style="list-style-type: none"> Act out or make a model of something to represent something in the real world using appropriate scientific vocabulary verbally. 	<ul style="list-style-type: none"> 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 (e.g. <i>Yes. I prefer that one too</i>) Build on / add to someone else's idea. (e.g. <i>we could use x and as well as y</i>) Begin to understand that it is okay to disagree with their peers and offer a reason for their opinion
2	<ul style="list-style-type: none"> <u>Use simple scientific language from the year 2 PoS to talk about / record what they have noticed</u> Use observations to make suggestions and/or ask questions <u>Observe and describe simple processes/cycles/changes with several steps</u> (e.g. <i>growth cycle, simple food chain, saying how living things depend on one another</i>) <u>Observe closely and communicate with increasing accuracy</u> the features or properties of things in the real world 	<ul style="list-style-type: none"> Name / Identify common examples, some common features or different uses Sort and group objects, materials or living things by <u>observable and/or behavioural features</u> Compare and contrast... a variety of things [objects, materials or living things] - focusing on the similarities as well as the differences 	<ul style="list-style-type: none"> <u>Raise their own logical questions based on or linked to things they have observed</u> With help / scaffolds, begin to ask questions such as 'What will happen if...?' 	<ul style="list-style-type: none"> 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 <u>Use simple and appropriate secondary sources (such as books, photographs, videos and other technology) to find things out / find answers</u> 	<ul style="list-style-type: none"> Act out something to represent something else about the world around us (e.g. <i>a life cycle</i>) 	<ul style="list-style-type: none"> Share ideas in a group and listen to the ideas of others Work cooperatively with others on a science task making some choices



Year 3 Science Knowledge

EXPLORING / OBSERVING <i>KS1 - observing closely Using their observations and ideas to suggest answers to questions</i> <i>LKS2 - developing their own ideas & their understanding of the world around them</i>	GROUPING AND CLASSIFYING <i>KS1 - Compare and contrast a variety of examples linked to KS1 PoS</i> <i>LKS2 - Compare and contrast a variety of examples linked to LKS2 PoS</i>	QUESTIONING <i>KS1 - asking simple questions</i> <i>LKS2 - asking relevant questions</i>	RESEARCH <i>KS1 - finding things out using secondary sources of information</i> <i>LKS2 - finding things out using a wide range of secondary sources of information</i>	MODELLING <i>using dance, drama or a visual aid to represent science in the real world</i>	COLLABORATING <i>interacting effectively as part of a group</i>
--	---	---	--	--	---



Year 3 Science Knowledge

4	<ul style="list-style-type: none">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 the most appropriate type of science enquiry they might use to answer scientific questions (<i>is a fair test the best way to investigate their question?</i>).Make a prediction based on the knowledge acquired from previous explorations/observations and apply it to a new situationExplain their planning decisions and choicesMake some of the planning decisions about what to change and measure/observe.Begin to recognise when a fair test is necessary.	<ul style="list-style-type: none">Begin to identify where patterns might be found and use this to <u>begin to identify what data to collect</u>Make more of the <u>decisions</u> 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 safeLearn how to use new equipment, such as <u>data loggers & measure temperature in degrees Celsius (°C) using a thermometer.</u><u>Collect data from their own observations and measurements, using notes/simple tables/standard units</u>Make accurate measurements using standard units [and more complex units and parts of units] using a range of equipment and scales	<ul style="list-style-type: none">Record findings using relevant scientific language and vocabulary (from Y4 PoS), including discussions, oral and written explanations, notes, drawings (annotated), pictorial representations, labelled diagrams, <u>tables and bar charts</u> [where intervals and ranges agreed through discussion], displays or presentations<u>Begin to select the most useful ways to collect, record, classify and present data from a range of choices</u>Make decisions on how best to communicate their findings in ways that are appropriate for different audiences	<ul style="list-style-type: none"><u>Notice/find patterns in their observations and data. (Describe the effect of something on something else)</u> (e.g. <i>as I lengthen the ruler I notice that the pitch gets lower</i>)With some independence, analyse results / observations by writing a sentence that matches the evidencei.e. deciding the important aspect of the result and summarising in a conclusion (e.g. <i>metals tend to be good conductors of electricity</i>)	<ul style="list-style-type: none">Begin to develop their ideas about relationships and interactions between things and explain themUse <u>relevant scientific language and vocabulary</u> (from Y4 PoS) to <u>begin to say/explain why something happened</u>	<ul style="list-style-type: none">Use results to <u>suggest improvements, new questions and/or predictions for setting up further tests</u>Compare their results with others and give reasons why results might be different
3	<ul style="list-style-type: none">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 experienceWith support/as a group, set up simple practical enquiries incl. comparative and fair tests e.g. <u>make a choice</u> from a list of a things (variables) to change when conducting a fair test. (e.g. <i>choose which magnets to compare and which method to use to test their strength</i>).<u>As a group, begin to make some decisions</u> about the best way of answering their qus.Find/suggest a practical way to compare things e.g. <i>rocks, magnets</i>	<ul style="list-style-type: none"><u>Collect data from their own observations and measurements using notes/ simple tables/standard units</u>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 equipmentGather data in a variety of ways to help in answering questionsUse equipment accurately to improve the detail of their measurements/observations (e.g. <i>microscopes, measuring syringes, measuring cylinders, hand lenses</i>)	<ul style="list-style-type: none"><u>Record and present findings using simple scientific language and vocabulary from the year 3 PoS, including discussions, oral and written explanations, notes, annotated drawings, pictorial representations, labelled diagrams, simple tables, bar charts (using scales chosen for them), displays or presentations</u><u>With scaffold / support record, and present data in a variety of ways</u> to help in answering questions.Communicate their findings in ways that are appropriate for different audiences. (linked to Y3 PoS)	<ul style="list-style-type: none">With scaffold/support, describe and compare the effect of different factors on something. (e.g. <i>we noticed that larger magnets are not always stronger</i>)<u>With help, look for changes and simple patterns in their observations, data, chart or graph.</u>Use their results to consider whether they met their predictions.	<ul style="list-style-type: none">Use their experience and some evidence or results to <u>draw a simple conclusion</u> 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 year 3 PoS	<ul style="list-style-type: none">Say whether what happened was what they expected and notice any results that seem odd.<u>Begin to recognise when a test is not fair and suggest improvements.</u>
2	<ul style="list-style-type: none">Carry out simple comparative tests as part of a group, following a method with some independenceMake a simple prediction about what 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 testTalk about a practical way to find answers to their questions	<ul style="list-style-type: none">Measure using non-standard and simple standard measures (e.g. cm, time) with increasing accuracyBegin to make decisions about which equipment to use<u>Correctly and safely use equipment provided to make observations and/or take simple measurements</u>	<ul style="list-style-type: none">Record and communicate their findings in a range of ways to a variety of audiencesUse simple scientific language with increasing accuracy (from year 2 PoS)<u>Record simple data with some accuracy to help in answering questions;</u><ul style="list-style-type: none">With support or using frameworks, make decisions about how to complete a variety of tables/charts (e.g. <i>a 2 column table, tally charts, Venn diagram, pictograms, block graphs with 1:1 scale</i>).Present findings in a class displaysSequence / annotate photographs of change over timeProduced increasingly detailed drawings which are labelled/annotated	<ul style="list-style-type: none">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	<ul style="list-style-type: none"><u>Begin to use simple scientific language (from year 2 PoS) to explain what they have found out.</u><u>Give a simple, logical reason why something happened (e.g. I think ... because ...)</u>	<ul style="list-style-type: none"><u>Begin to discuss if the test was unfair</u>
	PLANNING AND TESTING KS1 - performing simple tests LKS2 - making decisions about and setting up simple practical enquiries, comparative tests and fair tests	USING EQUIPMENT AND MEASURES KS1 - Using simple equipment and gathering data to help in answering their questions	COMMUNICATING Reporting findings, recording data, presenting findings Read, spell and pronounce scientific vocabulary correctly linked to the relevant Yr Grp	CONSIDERING THE RESULTS OF AN INVESTIGATION / WRITING A CONCLUSION DESCRIBING RESULTS / LOOKING FOR PATTERNS KS1 - Talk about what happened / what they noticed EXPLAINING RESULTS KS1 - talk about what they found out LKS2 - reporting on findings saying why something happened TRUSTING RESULTS KS1 - beginning to spot when a method is not fair LKS2 - suggest improvements for further tests		



Year 3 Science Knowledge

		<i>LKS2 - making accurate measurements and gathering data</i>		<i>LKS2 - Describing their findings / results</i>		
--	--	---	--	---	--	--