Year Group Expectations: Year 3

Year 4	▪ 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 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)	▪ Make a simple guide to local living things. ▪ Use guides or simple keys to 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, different food chains, different electrical circuits)*	▪ 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 experiment / test].	▪ 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.	▪ 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.	▪ 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 / 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
Year 3	▪ 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 / real contexts and record observations (linked to Y3 PoS) – see 'Communicating' section also re links to vocabulary	▪ Decide ways and give reasons for sorting, grouping, classifying, identifying things/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*	▪ 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 what they observe and about the world around them.	▪ Find things out using a range of secondary sources of information *(e.g. books, photographs, videos and other technology)*	▪ Act out or make a model of something to represent something in the real world using appropriate scientific vocabulary verbally.	▪ 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. Yes. I prefer that one too)* ▪ Build on / add to someone else's idea. *(e.g. we could use x and as well as y)* ▪ Begin to understand that it is okay to disagree with their peers and offer a reason for their opinion
Year 2	▪ Use simple scientific language from the year 2 PoS to talk about / **record** what they have noticed ▪ Use observations to make suggestions and/or ask questions ▪ **Observe** and 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	▪ **Name / Identify** common examples, some common features or 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	▪ 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…?"	▪ 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	▪ Act out something to represent something else about the world around us *(e.g a life cycle)*	▪ Share ideas in a group and listen to the ideas of others ▪ Work cooperatively with others on a science task making some choices
	EXPLORING / OBSERVING ***KS1 - observing closely*** ***Using their observations and ideas to suggest answers to questions*** ***LKS2 - developing their own ideas & their understanding of the world around them***	**GROUPING AND CLASSIFYING** ***KS1 - Compare and contrast a variety of examples linked to KS1 PoS*** ***LKS2 - Compare and contrast a variety of examples linked to LKS2 PoS***	**QUESTIONING** ***KS1 - asking simple questions*** ***LKS2 - asking relevant questions***	**RESEARCH** ***KS1 - finding things out using secondary sources of information*** ***LKS2 - finding things out using a wide range of secondary sources of information***	**MODELLING** ***using dance, drama or a visual aid to represent science in the real world***	**COLLABORATING** ***interacting effectively as part of a group***

Year Group Expectations: Year 3

Year 4	▪ 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 *(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/observe. ▪ Begin to recognise when a **fair test** is necessary.	▪ 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 loggers & 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	▪ Record findings using relevant scientific language and vocabulary (from Y4 PoS), including discussions, oral 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	▪ 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 summarising in a **conclusion** *(e.g. metals tend to be good conductors of electricity)*	▪ 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	▪ 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
Year 3	▪ 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 simple practical enquiries incl. 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 qus. ▪ Find/suggest a practical way to compare things *e.g. rocks, magnets*	▪ 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 questions ▪ Use equipment **accurate**ly to improve the detail of their measurements/observations *(e.g. microscopes, measuring syringes, measuring cylinders, hand lenses)*	▪ 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* ▪ 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)	▪ 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 **prediction**s.	▪ 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 year 3 PoS	▪ 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.
Year 2	▪ Carry out simple comparative tests as part of a group, following a **method** with some independence ▪ Make 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 test ▪ Talk about a practical way to find answers to their questions	▪ **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	▪ **Record** and communicate their findings in a range of ways to a variety of audiences ▪ Use simple scientific language with increasing accuracy (from year 2 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 change over time* ▪ *Produced increasingly detailed drawings which are labelled/annotated*	▪ 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 **prediction**s. (say if results were what they expected) ▪ Use their recordings to talk about and describe what has happened	▪ Begin to use simple scientific language (from year 2 PoS) to explain what they have found out. ▪ Give a simple, logical reason why something happened *(e.g. I think … because …)*	▪ Begin to discuss if the test was un**fair**
	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*** ***LKS2 - making accurate measurements and gathering data***	**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*** ***LKS2 - Describing their findings / results***		**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***