

Skills	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Explore, Question and Generate ideas	<ul style="list-style-type: none"> Using senses explore the world around them. Asks appropriate questions. With support talk about why things happen; how things work; ways to solve problems or questions 	<ul style="list-style-type: none"> Generates ideas from initial experiences. SWS1.1Asks appropriate questions. Begin to use questions to identify problems. SWS1.4 Use observation to find answers to simple questions. 	<ul style="list-style-type: none"> Explore and evaluate in order to verbally communicate ideas. SWS2.1Ask 'scientific' questions using a range of sentence stems that lead to enquiry or extend/deepen initial ideas. Suggest ways to answer questions. 	<ul style="list-style-type: none"> SWS3.8Ask relevant science-based questions and use different types of scientific enquiries to answer them. SWS3.4Identify differences, similarities or changes related to ideas and processes. 	<ul style="list-style-type: none"> SWS4.8 Ask relevant questions and use different types of scientific enquiries to answer them. SWS4.4 Identify differences, similarities or changes related to simple scientific ideas and processes. 	<ul style="list-style-type: none"> Ask questions and offer own ideas for enquiries. With support, improve questions to clarify purpose. With support, use some primary and secondary resources in addition to own experiences and those of peers, to shape and inform their own ideas. 	<ul style="list-style-type: none"> Asks questions and offer own ideas for enquiry and improves question to clarify accurate response. Use a range of primary and secondary resources in addition to their own experiences and those of their peers, to shape and inform their own ideas.
Reasoning	<ul style="list-style-type: none"> Beginning to use more complex sentences to link thoughts (e.g. using and, because). 	<ul style="list-style-type: none"> Explaining their ideas and thinking using prior knowledge to answer simple questions given by adult. 	<ul style="list-style-type: none"> With support, give a reason that supports their thinking, using specific language where appropriate. 	<ul style="list-style-type: none"> Use prior knowledge that develops and supports thinking using specific language where appropriate. 	<ul style="list-style-type: none"> Explain choices, decisions, approaches and comments Begin to be able to read and interpret line graphs with support. 	<ul style="list-style-type: none"> With support, justify why particular methods and approaches have been decided upon using technical/age appropriate language. 	<ul style="list-style-type: none"> Justify which methods and approaches have been decided upon using technical/age appropriate language.
Predict	<ul style="list-style-type: none"> Make predictions based on observation or experiences 	<ul style="list-style-type: none"> Using prior knowledge make predictions that are appropriate to task. 	<ul style="list-style-type: none"> With support, predict outcomes to enquires by suggesting what might happen. 	<ul style="list-style-type: none"> Predict outcome to enquires. 	<ul style="list-style-type: none"> Predict outcomes and sometimes suggest reasons for predictions. Make further predictions from results and in simple contexts. 	<ul style="list-style-type: none"> Predict outcomes and (with occasional support/guidance) suggest reasons for predictions. SWS5.4 With support, make predictions from results and uses these to test suggested patterns in the relationship studied. 	<ul style="list-style-type: none"> Independently predict outcomes, the expected pattern of results. Justify predictions using subject knowledge Independently uses predictions to test suggested patterns relationships.
Plan, Test, Investigate	<ul style="list-style-type: none"> Make decisions about how to approach a task, Look closely at differences, patterns and change. solve a problem and reach a goal 	<ul style="list-style-type: none"> Write or show through a sequence of diagrams or orally describe to another child/adult what they are going to do. 	<ul style="list-style-type: none"> Develop ideas through discussions, observations, drawings and modelling. Plan by suggesting what to do next and how to progress as ideas develop. Setting up comparative tests. 	<ul style="list-style-type: none"> With support, decide on an appropriate approach in their own investigation to answer questions. SWS3.3 Set up simple practical enquiries, comparative and fair tests. 	<ul style="list-style-type: none"> SWS4.3 Set up simple, practical enquiries and tests (comparative and fair). In a fair test identify controlled, independent and dependent variables. Order and plan the main stages of investigation. 	<ul style="list-style-type: none"> SWS5.1 Plan different types of scientific enquiries to answer questions. Set up a fair test knowing the controlled, independent and dependent variables. Supported, considers whether to take repeat readings or plan other types of enquiry. 	<ul style="list-style-type: none"> Independently set up a fair test. SWS6.1 Plan the detail in other types of enquiry and with support consider plans if an approach will yield enough evidence for the task.
Identifying and mitigating hazards	<ul style="list-style-type: none"> Show understanding of safety with new challenges. Consider/manage some risks. 	<ul style="list-style-type: none"> Identify and talk about dangers/risk and be able to manage them. 	<ul style="list-style-type: none"> With support, can recognise hazards 	<ul style="list-style-type: none"> Recognise most hazards. 	<ul style="list-style-type: none"> Recognises hazards and, with support, plans how to control risks. 	<ul style="list-style-type: none"> Is able to assess most hazards and plan how to control risks. 	<ul style="list-style-type: none"> Assesses hazards and plans how to control risks Independently.
Equipment (Selecting and using)	<ul style="list-style-type: none"> Select equipment appropriate for task. Shows understanding of how to use and store equipment safely. 	<ul style="list-style-type: none"> From a given selection of equipment selects and uses equipment appropriately SWS1.3Use science-related equipment for task/ experiment appropriately 	<ul style="list-style-type: none"> Selects equipment form a range offered, appropriately. SWS2.3Use 'science' related equipment accurately Follows instructions for using equipment correctly and safely, usually working without adult support. 	<ul style="list-style-type: none"> Selects tools from a wider range with support Uses basic equipment correctly and safely. May refer to adult when equipment fails. 	<ul style="list-style-type: none"> Select appropriate equipment for investigation. With support, considers the scale and the degree of accuracy required on some measuring equipment 	<ul style="list-style-type: none"> Selects equipment from a wider range (including digital scales, force meters & ipad apps) consider scales and the degree of accuracy required. Uses a wide range of equipment correctly and safely, dealing with failures independently. 	<ul style="list-style-type: none"> Selects suitable equipment for a range of tasks. Independently takes into account the scale and degree of accuracy on measuring equipment. Uses a wide range of equipment correctly and safely dealing with equipment independently.
Diagrams	<ul style="list-style-type: none"> To draw a simple representation of a finished product, idea or findings. Record ways that child can interpret and explain 	<ul style="list-style-type: none"> To draw and label a simple representation of a finished diagram. 	<ul style="list-style-type: none"> Use drawings and labels to present evidence. Creates charts. Creates simple food chains 	<ul style="list-style-type: none"> SWS3.5 Record findings in a range of ways: drawings, labelled diagrams, keys, bar charts and tables. 	<ul style="list-style-type: none"> SWS4.5 Collect information from a range of different sources and use to inform ideas in words, labelled sketches, diagrams and models, keeping in mind, fitness for purpose and the end user/viewer. 	<ul style="list-style-type: none"> SWS5.3Use various examples of information clarifying/sharing ideas through discussion, labelled sketches, cross-sectional diagrams and models, recognising that ideas have to meet a range of needs. 	<ul style="list-style-type: none"> Develop detailed criteria for investigations aimed at individuals/ target audience/ questions. Sharing results through a range of diagrams and representations, e.g: cross sectional, exploded diagrams prototypes and pattern pieces.
Collect data (Recording results)	<ul style="list-style-type: none"> Use what they have observed and discuss. 	<ul style="list-style-type: none"> Make basic but relevant observations of scientific activities To begin to use tables as a means of recording data and describe what this might mean. Use simple tables to record results (e.g. tally, number, pictorial) 	<ul style="list-style-type: none"> SWS2.1Make relevant 'scientific' observations SWS2.5With some accuracy collect and record data to help answer 'science' related questions. With support, order results where appropriate using simple tables. 	<ul style="list-style-type: none"> SWS3.1 Make systematic observations taking measurements using standard units. SWS3.2 Gather, record, classify and present data in a variety of ways to help in answering scientific questions. 	<ul style="list-style-type: none"> SWS4.1 Make systematic observations taking accurate measurements using standard units and range of equipment. SWS4.2Gather, record, classify and present data in a variety of ways to answer scientific questions with support. 	<ul style="list-style-type: none"> SWS5.2Take measurements, using a range of scientific equipment, with increasing accuracy and precision; take repeat readings when appropriate. Records own data and results, choosing best way (with some support). Begins to select appropriate ways to collect and present evidence. 	<ul style="list-style-type: none"> SWS6.2Take measurements, using a range of scientific equipment, with increasing accuracy and precision; take repeat readings when appropriate. SWS6.3 Record increasingly complex data and results. Selecting the most appropriate. Makes a series of detailed relevant observations.

Concluding and interpret data	<ul style="list-style-type: none"> I can talk about what happened 	<ul style="list-style-type: none"> I can write and discuss what happened and whether it is what I expected using some scientific vocab. 	<ul style="list-style-type: none"> Describes what happens, making comparisons where appropriate. With support , orders results where appropriate 	<ul style="list-style-type: none"> SWS.3.6 Report on findings from inquiries, presenting findings in oral and/or written form; give explanations and conclusions. SWS3.9 Use straightforward scientific evidence to answer questions or to support findings. 	<ul style="list-style-type: none"> SWS4.9 Use straightforward scientific evidence to answer questions or to support findings. With support relates patterns in results to subject knowledge where appropriate. 	<ul style="list-style-type: none"> Sometimes relates patterns in results to subject knowledge where appropriate. SWS5.5 Begins to select appropriate ways to present evidence. Creates own bar charts and tables, including those for repeat reading. 	<ul style="list-style-type: none"> SWS6.4 Use test results to make predictions; test these. SWS6.5 Report and present findings from enquiries in oral and/or written forms; including conclusions, information about causal relationships and explanations of results (incl degree of trust in these).
Evaluation reflection	<ul style="list-style-type: none"> Can review how well the approach worked. 	<ul style="list-style-type: none"> To write simple sentences to say what happened, and whether that answers their question. 	<ul style="list-style-type: none"> SWS2.4 Use observation to find answers to 'science' related questions. Evaluate ideas against given criteria. 	<ul style="list-style-type: none"> SWS3.7 Use results to consider the views of others to improve their work. 	<ul style="list-style-type: none"> Suggest how the enquiry might be improved. With support recognises some of the limitations of the evidence. 	<ul style="list-style-type: none"> SWS5.6 Identify scientific evidence that has been used to support or refute ideas or arguments. Suggest why similar enquiries yield different results. Supported, considers the spread of repeated measurements / results. With support recognises some of the limitations of their evidence. 	<ul style="list-style-type: none"> SWS6.6 Identify scientific evidence that has been used to support or refute ideas or arguments. Identifies how much to trust results and justifies decision –recognising limitations. Suggests why similar inquires results differ and considers spread of repeated measurements/results.

Progression in Scientific Approaches

Pattern seeking	<ul style="list-style-type: none"> Look closely at differences, patterns and change and talk about what has been noticed. 	<ul style="list-style-type: none"> Can begin to identify and discuss different patterns noticed. What is different, what is the same. 	<ul style="list-style-type: none"> With support, identifies and describe simple causal relationships and say whether the relationship was what was expected. 	<ul style="list-style-type: none"> Increasingly independently identifies and describe simple causal relationships and say whether the relationship was what was expected. 	<ul style="list-style-type: none"> Independently discuss simple patterns using topic/knowledge specific language. 	<ul style="list-style-type: none"> With support, recognise the significance of relationships between sets of data. With support, discuss cause and effect patterns using scientific knowledge and understanding. 	<ul style="list-style-type: none"> Independently recognises the significance of relationships between sets of data. Discuss cause and effect patterns using scientific knowledge and understanding.
Research	<ul style="list-style-type: none"> Know that information can be retrieved from books/ICT. Talk about what has been observed. 	<ul style="list-style-type: none"> With help make suggestions about how to find things out. With support can use books and electronic media to research. Use scientific language to talk about what I found out. I give an opinion about research 	<ul style="list-style-type: none"> With help make suggestions about how to find things out. Use books and electronic media research. Use scientific language to talk about what was found out. Give an opinion about research. 	<ul style="list-style-type: none"> Increasingly use secondary sources to find information. Use someone else's data. Talk about research using scientific language. Suggest ways to improve how to find out and use information. 	<ul style="list-style-type: none"> With support, uses relevant information and data from a range of secondary sources. Begin to recognise how data is obtained and when it is biased. Discuss and explain independent research using scientific knowledge. 	<ul style="list-style-type: none"> Use a range of secondary resources to help answer questions and apply to own work. Talk about and explain research using scientific knowledge and understanding. Evaluate how well research has answered my question. 	<ul style="list-style-type: none"> Use relevant information and data from a range of secondary sources. Recognise how data has been obtained - noticing when biased. Independently discuss and explain independent research using scientific knowledge and understanding.
Observation over time	<ul style="list-style-type: none"> Develop an understanding of growth, decay and changes over time. 	<ul style="list-style-type: none"> Observe and describe changes/what's stayed the same to another child or adult. SWS1.2 Make basic but relevant observations of scientific activities. 	<ul style="list-style-type: none"> Make relevant observations. Take non-standard measurements. Observing through video or first hand. Record observations 	<ul style="list-style-type: none"> Make relevant observations. Use standard measuring equipment for quantities such as temperature and volume 	<ul style="list-style-type: none"> Begins to recognise and comment on the significance of change over time. Supported, begins to discuss and explain changes over time using scientific knowledge, vocabulary and understanding. 	<ul style="list-style-type: none"> With support recognise and comment on the significance of change over time With support discuss and explain changes over time drawing on scientific knowledge, vocabulary and understanding. 	<ul style="list-style-type: none"> Independently recognising and commenting on the significance of change over time Discuss and explain changes over time drawing on scientific knowledge, vocabulary and understanding.
Identifying/Classifying	<ul style="list-style-type: none"> Look at similarities and differences and begin to give names and reasons for sorted groups. (With Support) 	<ul style="list-style-type: none"> Give appropriate names to a group of objects, materials or living things. Describe how they do this. 	<ul style="list-style-type: none"> Give appropriate names to a group of objects, materials or living things. 	<ul style="list-style-type: none"> Use scientific names to groups of objects, materials or living things. 	<ul style="list-style-type: none"> Independently discuss the similarities and differences using appropriate topic specific and scientific language. 	<ul style="list-style-type: none"> With support recognise the significance of sorting and classifying. With support, discuss and explain decisions using scientific knowledge and language. 	<ul style="list-style-type: none"> Independently recognise the significance of sorting and classifying. Independently discuss and explain decisions using scientific knowledge and language.
Comparing and sorting	<ul style="list-style-type: none"> Show curiosity in similarities and differences and begin to sort and categorise. 	<ul style="list-style-type: none"> Identify common features and similarities in order to group and sort objects, materials and living things. 	<ul style="list-style-type: none"> Explore and compare, sort or classify objects, living things or events. EG: make simple comparisons and groupings that relate to differences and similarities 	<ul style="list-style-type: none"> Talk about what criteria to use to sort and classify objects. Use Carroll & Venn diagrams to sort. Use simple keys and branching databases to identify things. 	<ul style="list-style-type: none"> Explain criteria used to sort and classify. Use Carroll, Venn diagrams Use/create simple keys and branching databases to identify variables differences. 	<ul style="list-style-type: none"> Use a series of tests to sort and classify materials. Use secondary sources to identify and classify. Make own keys and branch databases with four or more items. 	<ul style="list-style-type: none"> Use a series of tests to sort and classify materials. Use secondary sources to identify and classify. Make own keys and branch databases with four or more items.