Science Skills and Progression

	Exploring and Planning	Gathering and Presenting Evidence	Interpreting results / evidence	Explaining
Year 5	Children can: independently explore ideas and ask questions about scientific phenomena; plan different types of scientific enquiry to answer questions; decide which variables to control.	Children can: make accurate and precise measurements; decide what to observe, how long to observe for and whether to repeat them; take accurate and precise measurements using standard units; select equipment and explain how to use it accurately; set up a range of comparative and fair tests; explain which variables need to be controlled and why; suggest improvements to investigations, giving reasons; record data and results of increasing complexity; develop keys and other information records to classify and describe.	Children can: begin to draw scientific, causal conclusions using the results of an enquiry to justify my ideas; begin to communicate findings using detailed scientific language.	Children can: begin to explain conclusions using scientific knowledge and understanding; begin to distinguish between opinion and facts; begin to use findings to make predictions and set up further enquiries; begin to use abstract models to explain my ideas.
Year 6	Children can: plan different types of scientific enquiry to answer questions; decide which variables to control.	Children can: make accurate and precise measurements; decide what to observe, how long to observe for and whether to repeat them;	Children can: draw scientific, causal conclusions using the results of an enquiry to justify ideas; distinguish between opinion and facts;	Children can: explain conclusions using scientific knowledge and understanding; begin to use abstract models to explain ideas;

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		take accurate and precise measurements using standard units N, g, kg, mm, cm, mins, seconds, cm^2V, km/h, m per sec, m/ sec; select equipment independently and can explain how to use it accurately; record data and results of increasing complexity; choose how best to present data; communicate findings using detailed scientific language.	use findings to make predictions and set up further enquiries.	explain ideas with scientific reasons; use scientific conventions e.g.; trends, rogue result, support prediction.
Year 7	Children can: select, plan and carry out appropriate types of scientific enquiries to test predictions; write an observation enquiry question; write a fair test enquiry question Identify control measures; identify risks and hazards; make predictions using scientific knowledge and understanding.	Children can: use appropriate techniques and apparatus to make observations and collect measurements; select a good way to display data; select relevant data and do calculations; make and record observations and measurements using a range of methods for different investigations; present observations and data using appropriate methods, including tables and graphs; understand and use SI units.	Children can: identify patterns in data; make conclusion and explain it; decide whether the conclusion of the experiment agrees with your prediction.	Children can: explain why the evidence supports your idea; judge the reliability of the source; suggest improvements and developments.

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Year 8	Children can: select, plan and carry out the most appropriate types of scientific enquiries to test predictions; make an experimental prediction Identify independent, dependent and control variables; write a pattern seeking enquiry question; select important control variables; identify how to control each control variable; list variables you cannot control; explain why some variables are difficult to control; suggest how the question being investigated can be safely explored in a school science laboratory.	Children can: use apparatus and equipment accurately to make and record observations and measurements; apply sampling techniques; apply mathematical concepts and calculate results; present observations and data using appropriate methods, including tables and graphs; understand and use SI units and IUPAC (International Union of Pure and Applied Chemistry) chemical nomenclature; use and derive simple equations and carry out appropriate calculations; draw line graphs to display relationships.	Children can: communicate your idea, evidence and reasoning; state your opinion; present your evidence; suggest relationships between variables; judge whether the conclusion is supported by the data; undertake basic data analysis including simple statistical techniques.	Children can: develop an explanation; evaluate the reliability of methods and suggest possible improvements; identify further questions arising from their results; analyse strengths and weaknesses in your inquiry; explain your reasoning.