Working Scientifically – Guide to Progression of Key Skills	
	EYFS
Ask questions	• Show curiosity about objects, people and the world around them • Ask why things are happening
Plan, set up & carry out enquiries	• Engage in new experiences and open ended play • Learn by trial and error
Observe, Measure and Record	• Closely observe what animals, people and objects do • Use senses to explore the world around them • Choose resources they need for their activities • Handle equipment effectively
Sort and Classify	• Make links and notice patterns in their play • Begin to group and sequence • Create simple representations of people objects and events
report and Interpret	• Notice similarities and differences in places, objects, materials and living things • Answer how and why questions about their experiences • Explain why some things happen
Evaluate	• Show an awareness of cause and effect

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	Year 1	Year 2
Ask questions	• Explore the world around them • Ask simple questions	• Form questions about scientific ideas • Suggest how to find things out
Plan, set up & carry out enquiries	• Consider different ways they could answer a scientific question • Set up simple practical enquiries • Carry out a simple test	• Suggest a test that might answer a scientific question • Explain when it might not be fair to compare two things • Carry out a simple fair test
Observe, Measure and Record	• Use their senses to describe observations • Can compare two things • Observe differences and changes • Use simple equipment to take measurements • Record observations and simple data using pictures, labels and captions	• Use some scientific language to describe observations • Compare several things they observe • Take accurate measurements using standard equipment and units • Record observations and simple data using standard units
Sort and Classify	• Organise things into groups • Begin to notice patterns and relationships • Find simple connections or patterns	• Use features to compare, group and sort objects, materials and living things • Identify different ways to sort things
report and Interpret	• Use observations to answer questions • Talk about what they have found and explain their ideas	• Put information into a chart or table • Use observations and simple data to answer questions • Talk about what they have found out • Use appropriate scientific language to explain ideas • Use simple secondary sources to find answers to questions
Evaluate	• Suggest why things have gone wrong or not worked • Discuss how they could improve a test	• Explain whether things happened as they expected and why • Suggest how an enquiry could be improved

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	Year 3	Year 4	Year 5	Year 6
Ask questions	• Discuss what question to ask to find something out	• Frame a scientific question to ask how to find something out	• Ask scientifically relevant questions	• Raise relevant questions based on their scientific knowledge and experiences
Plan, set up & carry out enquiries	• Make a prediction before testing • Explain why they need to collect information to answer a question • Plan a fair test and explain why it is fair • Carry out a simple test	• Make and record a prediction • Decide which information needs to be collected and how to collect it • Recognise when a fair test is needed and identify variables • Plan comparative and fair tests • Carry out a simple test controlling key variables	• Make and record a prediction with reasons • Suggest ideas for the most appropriate type of enquiry to answer a question • Plan and set up comparative and fair tests, explaining which variables need to be controlled and why • Plan and carry out a fair test by controlling variables	• Make and record and justify a prediction using scientific information or knowledge • Select and plan an effective type of scientific enquiry to answer a specific question • Plan and carry out tests identifying one variable to change and others to be controlled fairly and accurately • Devise their own questions and plan further enquiries to explore these questions
Observe, Measure and Record	• Describe observations with accurate detail • Measure using simple equipment and units of measure • Learn how to use simple standard measurement equipment	• Suggest what observations to make, how long to observe for and what equipment is needed • Make systematic and careful observations • Take measurements using standard units and a range of equipment • Record observations and measurements in a variety of ways	• Record detailed and relevant observations • Decide on units of measurement to use • Take measurements with increasing accuracy • Use a broader range of measurement equipment (eg, thermometers, data loggers)	• Decide on the most appropriate observations to make or measurements to take • Choose the most appropriate equipment, explain how to use it and take measurements with precision • Know how, when and why it would be helpful to repeat measurements • Choose how to record observations and measurements most appropriately • Decide what data could help to identify patterns and relationships
Sort and classify	• Identify features that could help to group and sort objects, materials and living things • Suggest different ways to sort things	• Use keys and other information to classify objects and living things • Discuss criteria for grouping objects and living things	• Use a range of keys, charts and information to classify objects and living things • Identify patterns in the natural environment • Suggest the most useful criteria to use when sorting specific objects	• Develop criteria and keys for sorting and classifying animals and objects • Suggest patterns and relationships between groups of living things or objects
report and interpret	• Describe what they have found out using scientific words • Show their findings using tables or charts • Explain what they have found out and draw a simple conclusion	• Use relevant scientific language to communicate findings • Show data in a variety of ways: tables, bar charts, labelled diagrams, keys • Look for changes, similarities and differences in observations and data • Use results to draw simple conclusions	• Present findings orally using explanations, displays or presentations • Produce accurate tables, charts and graphs to display data • Find patterns in observations and data • Use evidence from results to explain and justify conclusions • Recognise when and how secondary sources could be used to answer questions	• Use relevant scientific language to communicate, discuss and justify their scientific ideas • Decide how to display data including use of scientific diagrams, tables, bar and line graphs, scatter graphs • Look for correlation and causal relationships in their data • Assess and explain degree of trust in results • Use secondary sources to research questions and ideas and separate fact from opinion
Evaluate	• Identify whether their prediction was correct • Discuss ways in which their investigation could have been better	• Explain whether their prediction was correct or not and suggest why • Suggest ways to improve the enquiry they have done • Make further predictions based on their data	• Make connections between their prediction and results • Explore how they could improve the method of their enquiry • Link what they have found out to other scientific ideas • Ask new questions arising from their observations or data	• Explain whether their data supported their hypothesis • Evaluate the accuracy and quality of an enquiry and suggest possible improvements • Identify and explain anomalous results in data • Explore questions arising from the results of an enquiry • Identify evidence from enquiries or secondary sources that supports or refutes their ideas