Purleigh Community Primary School Progression of Skills: Science – Scientific Enquiry

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
<u>Scientific Enquiry</u> Observing Closely (KS1)	Can they look closely at similarities, differences, patterns and change?	Can they talk about what they see, touch, smell, hear or taste? Can they use simple equipment to help them make observations? Can they find out by watching, listening, tasting, smelling and touching?	Can they use see, touch, smell, hear or taste to help them answer questions? Can they use some scientific words to describe what they have seen and measured? Can they compare several things? Can they suggest ways of finding out through listening, hearing, smelling, touching and tasting?				

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Scientific Enquiry **Performing Tests (KS1)** **Planning (KS2)**	Can they operate simple equipment? Can they look closely at similarities, differences, patterns and change?	Can they perform a simple test? Can they tell other people about what they have done? Can they give a simple reason for their answers?	Can they carry out a simple fair test? Can they explain why it might not be fair to compare two things? Can they say whether things happened as they expected? Can they suggest how to find things out? Can they use prompts to find things out? Can they say whether things happened as they expected and if not why not?	Can they use different ideas and suggest how to find something out? Can they make and record a prediction before testing? Can they plan a fair test and explain why it was fair? Can they set up a simple fair test to make comparisons? Can they explain why they need to collect information to answer a question? Can they record and present what they have found using scientific language, drawings, labelled diagrams, bar charts and tables?	Can they set up a simple fair test to make comparisons? Can they plan a fair test and isolate variables, explaining why it was fair and which variables have been isolated? Can they suggest improvements and predictions? Can they decide which information needs to be collected and decide which is the best way for collecting it? Can they use their findings to draw a simple conclusion? Can they plan and carry out an investigation by controlling variables fairly and accurately? Can they use test results to make further predictions	Can they plan and carry out a scientific enquiry to answer questions, including recognising and controlling variables where necessary? Can they make a prediction with reasons? Can they use test results to make predictions to set up comparative and fair tests? Can they present a report of their findings through writing, display and presentation? Can they explore different ways to test an idea, choose the best way and give reasons? Can they vary one factor whilst keeping the others the same in an experiment? Can they use information to help make a prediction?	Can they explore different ways to test an idea, choose the best way, and give reasons? Can they vary one factor whilst keeping the others the same in an experiment? Can they explain why they do this? Can they plan and carry out an investigation by controlling variables fairly and accurately? Can they make a prediction with reasons? Can they use information to help make a prediction? Can they use test results to make further predictions and set up further comparative tests? Can they explain, in simple terms, a scientific idea and what evidence supports it? Can they present a report of their findings

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					and set up further comparative tests?	Can they explain, in simple terms, a scientific idea and what evidence supports it?	through writing, display and presentation? Can they choose the best way to answer a question? Can they use information from different sources to answer a question and plan an investigation? Can they make a prediction which links with other scientific knowledge? Can they identify the key factors when planning a fair test? Can they explain how a scientist has used their scientific understanding plus good ideas to have a breakthrough?

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<u>Scientific Enquiry</u> Identifying and Classifying (KS1)	Can they operate simple equipment?	Can they identify and classify things they observe? Can they think of some questions to ask? Can they answer some scientific questions? Can they give a simple reason for their answers? Can they explain what they have found out? Can they talk about similarities and differences? Can they explain what they have found out using scientific vocabulary?	Can they organise things into groups? Can they find simple patterns (or associations)? Can they identify animals and plants by a specific criteria, e.g. lay eggs or not; have feathers or not? Can they suggest more than one way of grouping animals and plants and explain their reasons?				
<u>Scientific Enquiry</u> Recording Findings (KS1) **Obtaining and Presenting Evidence (KS2)**		Can they show their work using pictures, labels and captions? Can they record their findings using standard units? Can they put some information in a chart or table?	Can they use text, diagrams, pictures, charts, tables to record their observations? Can they measure using simple equipment?	Can they measure using different equipment and units of measure? Can they record their observations in different ways? (labelled diagrams, charts etc.)	Can they take measurements using different equipment and units of measure and record what they have found in a range of ways? Can they make accurate	Can they take measurements using a range of scientific equipment with increasing accuracy and precision? Can they take repeat readings when appropriate?	Can they explain why they have chosen specific equipment? (incl ICT based equipment) Can they decide which units of measurement they need to use?

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		Can they use ICT to show their working? Can they make accurate measurements?	Can they use information from books and online information to find things out?	Can they describe what they have found using scientific language? Can they make accurate measurements using standard units? Can they explain their findings in different ways (display, presentation, writing)? Can they use their findings to draw a simple conclusion? Can they suggest improvements and predictions for further tests?	measurements using standard units? Can they explain their findings in different ways (display, presentation, writing)? Can they record more complex data and results using scientific diagrams, classification keys, tables, bar charts, line graphs and models?	Can they record more complex data and results using scientific diagrams, labels, classification keys, tables, scatter graphs, bar and line graphs? Can they decide which units of measurement they need to use? Can they explain why a measurement needs to be repeated?	Can they explain why a measurement needs to be repeated? Can they record their measurements in different ways? (incl bar charts, tables and line graphs) Can they take measurements using a range of scientific equipment with increasing accuracy and precision? Can they plan in advance which equipment they will need and use it well? Can they make precise measurements? Can they collect information in different ways? Can they record their measurements and observations systematically? Can they explain qualitative and quantitative data?
Scientific Enquiry				Can they explain what they have found out and use their measurements	Can they find any patterns in their evidence or measurements?	Can they report and present findings from enquiries through written	Can they find a pattern from their data and explain what it shows?

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Considering Evidence and Evaluating (KS2)				to say whether it helps to answer their question? Can they use a range of equipment (including a data-logger) in a simple test? Can they suggest how to improve their work if they did it again?	Can they make a prediction based on something they have found out? Can they evaluate what they have found using scientific language, drawings, labelled diagrams, bar charts and tables? Can they use straightforward scientific evidence to answer questions or to support their findings? Can they identify differences, similarities or changes related to simple scientific ideas or processes? Can they report findings from investigations through written explanations and conclusions? Can they use a graph or diagram to answer	explanations and conclusions? Can they use a graph to answer scientific questions? Can they find a pattern from their data and explain what it shows? Can they link what they have found out to other science? Can they suggest how to improve their work and say why they think this?	Can they use a graph to answer scientific questions? Can they link what they have found out to other science? Can they suggest how to improve their work and say why they think this? Can they record more complex data and results using scientific diagrams, classification keys, tables, bar charts, line graphs and models? Can they report findings from investigations through written explanations and conclusions? Can they identify scientific evidence that has been used to support to refute ideas or arguments? Can they report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in

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					scientific questions?		results, in oral and written forms such as displays and other presentations? Can they draw conclusions from their work? Can they link their conclusions to other scientific knowledge? Can they explain how they could improve their way of working?