








Clarendon Primary School

Science Skills Progression Document

Working Scientifically	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Asking simple questions and recognising that they can be answered in different ways 	Ask simple questions and recognise that they can be answered in different ways e.g. Why are flowers different colours? Why do some animals eat meat and others do not?	Ask simple questions and recognise that they can be answered in different ways including use of scientific language from the national curriculum e.g. Why do some trees lose their leaves in autumn and others do not? How long are the roots of tall trees? Why do some animals have underground habitats?	Ask relevant questions and use different types of scientific enquiries to answer them e.g. Why does the moon appear as different shapes in the night sky? Why do shadows change during the day? Where does a fossil come from?	Ask relevant questions and use different types of scientific enquiries to answer them e.g. Why are steam and ice the same thing? Why is the liver important in the digestive system? What do we mean by pitch when it comes to sound?	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
Planning and performing simple tests 	Perform simple tests e.g. Which materials keep things warmest? Know whether the test has been successful and can say what has been learned.	Perform simple comparative and fair tests e.g. Finding out how seeds grow best	Set up simple practical enquiries, comparative and fair tests e.g. To see which type of soil is most suitable when growing two similar plants? To see if their right hand is as efficient as their left. Set up a fair test with different variables e.g. the best conditions for a plant to grow. Can explain to a partner why a test is a fair one.	Set up simple practical enquiries, comparative and fair tests e.g. Which of two instruments make the highest or lowest sound and does a glass of ice weigh more than a glass of water. Set up a fair test with more than one variable e.g. using different materials to cut out sound. Can explain to others why a test is fair e.g. discover how fast ice melts in different temps.	Set up an investigation when it is appropriate e.g. finding out which materials dissolve or not. Set up a fair test when needed e.g. Which surfaces create most friction? Set up an enquiry based investigation e.g. Find out what adults/ children can do now that they couldn't do when they were a baby. Know what variables are in a given enquiry and can isolate each one when investigating. e.g. Finding out how effective parachutes are when made with different materials.	Know which type of investigation is needed to suit a particular scientific enquiry e.g. Looking at the relationship between pulse and exercise. Set up a fair test when needed e.g. Does light travel in straight lines? Know how to set up an enquiry based investigation e.g. What is the relationship between oxygen and blood?
Making Predictions (mainly KS2) 		Use his/her observations and ideas to suggest answers to questions noticing similarities, differences and patterns	Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions	Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions	Use test results to make predictions to set up further comparative and fair tests.	Use test results to make predictions to set up further comparative and fair tests.




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Measuring 	Use simple equipment to observe closely	Use simple equipment such as thermometers and rain gauges to observe closely changes over time	Take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers	Take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers	Take measurements using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate	Take measurements using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
Gathering and Recording 	Can collect and record data to help answer questions.	Can collect and record data to help answer questions.	Can gather, record, classify and present data in a variety of ways to help in answering questions. I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.	Can gather, record, classify and present data in a variety of ways to help in answering questions. I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	Can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs	Can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
Communicating findings 	Know whether the test has been successful and can say what has been learned. Use my observations and ideas to suggest answers to questions and explain what has been learned from an investigation or what conclusions have been found.	Know whether the test has been successful and can say what has been learned. Use observations and ideas to suggest answers to questions. Communicate ideas, what he/she does and what he/she finds out In a variety of ways e.g. simple written reports or group write ups.	Report on findings from enquiries, including spoken and written explanations, displays or presentations of results and conclusions.	Report on findings from enquiries, including spoken and written explanations, displays or presentations of results and conclusions.	Talk about and present findings from enquiries, including conclusions, causal relationships and explanations of how reliable the information is.	Talk about and present findings from enquiries, including conclusions, causal relationships and explanations of how reliable the information is.
Identifying and classifying 	Identify and classify by putting items into groups. e.g. Deciduous and coniferous	Identify and classify by putting items into groups. e.g. Mammals and birds	Group information according to common factors e.g. plants that grow in woodlands/plants that grow in gardens. e.g. Venn Diagrams with bisecting sets or Carroll Diagrams	Group information according to common factors e.g. materials that make good conductors or insulators e.g. Venn Diagrams with bisecting sets or Carroll Diagrams	Group and classify things and recognise patterns using appropriate ways of presenting e.g. classification keys.	Group and classify things and recognise patterns using appropriate ways of presenting e.g. classification keys.

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Observing closely, using simple equipment 	Make observations, sometimes using equipment	Make observations, sometimes using equipment	Make observations and take measurements using standard units, using a range of equipment, including thermometers and data loggers	Make observations and take measurements using standard units, using a range of equipment, including thermometers and data loggers	Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate	Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
Drawing conclusions and Evaluating (KS2 only) 			Use straightforward scientific evidence to answer questions or to support his/her findings	Use straightforward scientific evidence to answer questions or to support his/her findings	Identify scientific evidence that has been used to support or refute ideas or arguments	Identify scientific evidence that has been used to support or refute ideas or arguments
Scientific research 			Use research to find out a range of things e.g. How reflection can help us see things that are around the corner. What are the main differences between sedimentary and igneous rocks?	Use research to find out a range of things e.g. Which materials make effective conductors and insulators of electricity? How much time it takes to digest our food	Find things out using a wide range of secondary sources of information	Find things out using a wide range of secondary sources of information
KS1 Scientific skills summary:	Working Scientifically In KS1 During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: <ul style="list-style-type: none"> • asking simple questions and recognising that they can be answered in different ways • observing closely, using simple equipment • performing simple tests • identifying and classifying • using their observations and ideas to suggest answers to questions • gathering and recording data to help in answering questions. 					
KS2 Scientific skills summary:	Working Scientifically In Lower KS2 During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: <ul style="list-style-type: none"> • Can ask relevant questions and use different types of scientific enquiries to answer them. • Can set up simple practical enquiries, comparative and fair tests. • Can make systematic and careful observations and, where appropriate, take accurate measurements using standard units. • Can gather, record, classify and present data in a variety of ways to help in answering questions. • Can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. • Can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. • Can use results to draw simple conclusions, make predictions and suggest improvements. Working Scientifically In Upper KS2 During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:					

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	<ul style="list-style-type: none">• planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate• recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs• using test results to make predictions to set up further comparative and fair tests• reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations• identifying scientific evidence that has been used to support or refute ideas or arguments.
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