

## Progression in Key Concepts and Skills in Science.

	Year 1 (KS1 Skills)	Year 2 (KS1 Skills)	Year 3 (Lower KS2 Skills)	Year 4 (Lower KS2 Skills)	Year 5 (Upper KS2 Skills)	Year 6 (Upper KS2 Skills)
Working scientifically	To use the following practical scientific methods, processes and skills (adult support may be needed)	To use the following practical scientific methods, processes and skills with increasing confidence	To use the following practical scientific methods, processes and skills	To use the following practical scientific methods, processes and skills	To use the following practical scientific methods, processes and skills	To use the following practical scientific methods, processes and skills
Questioning and enquiring planning	<p>Ask simple questions about the world around us.</p> <p>Begin to recognise that they can be answered in different ways (different types of enquiry including - observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative tests, finding things out from secondary sources).</p>	<p>Ask questions about the world around us.</p> <p>Recognise that they can be answered in different ways (different types of enquiry including - observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative tests, finding things out from secondary sources).</p>	<p>Ask some relevant questions and use different types of scientific enquiries to answer them.</p> <p>Begin to develop their ideas about functions, relationships and interactions.</p> <p>Begin to raise their own questions about the world around them.</p> <p>Begin to make some decisions about which types of enquiry will be the best way of answering questions including observing changes over time, noticing patterns, grouping and classifying, carrying out simple</p>	<p>Ask relevant questions and use different types of scientific enquiries to answer them.</p> <p>Explore everyday phenomena and the relationships between living things and familiar environments.</p> <p>Develop their ideas about functions, relationships and interactions.</p> <p>Raise their own questions about the world around them.</p>	<p>Begin to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Begin to explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically.</p> <p>Begin to recognise scientific ideas change and develop over time.</p> <p>Begin to select the most appropriate ways to answer science questions</p>	<p>Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically.</p> <p>Recognise more abstract ideas and begin to recognise how these ideas help them to understand how the world operates.</p>



			<p>comparative and fair tests, finding things out using secondary sources.</p>	<p>Make some decisions about which types of enquiry will be the best way of answering questions including observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative and fair tests, finding things out using secondary sources.</p>	<p>using different types of scientific enquiry (including observing changes over different periods of time, noticing patterns, grouping and classifying, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information.)</p>	<p>Recognise scientific ideas change and develop over time.</p> <p>Select the most appropriate ways to answer science questions using different types of scientific enquiry (including observing changes over different periods of time, noticing patterns, grouping and classifying, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information.)</p>
<p>Adaptive teaching</p>	<p>Support pupils with visual resources for vocabulary                  Support with question stems                  Adjust size of diagrams/tables based on motor skills                  Provide word mats to support with technical vocabulary                  Provide pencil grips where necessary to support with control for drawing and writing                  Recap previous learning to support memory                  Support with group work in sessions where needed                  Brake down into small steps - task board</p>					

	Year 1 (KS1 Skills)	Year 2 (KS1 Skills)	Year 3 (Lower KS2 Skills)	Year 4 (Lower KS2 Skills)	Year 5 (Upper KS2 Skills)	Year 6 (Upper KS2 Skills)
Investigating	<p>Perform simple tests with support.</p> <p>Observe closely, using simple equipment, with support.</p> <p>Begin to discuss ideas about how to find things out.</p> <p>Begin to say what happened in an investigation.</p> <p>Begin to observe changes over time.</p>	<p>Perform simple tests.</p> <p>Observe closely, using simple equipment.</p> <p>Discuss ideas about how to find things out.</p> <p>Say what happened in an investigation.</p> <p>Observe changes over time.</p>	<p>Set up some simple practical enquiries, comparative and fair tests.</p> <p>Begin to recognise when a simple fair test is necessary and help to decide how to set it up.</p> <p>Begin to think of more than one variable factor.</p> <p>Begin to make systematic and careful observation and where appropriate, take accurate measurements using standard units, using a range of equipment appropriately, including thermometers and data loggers.</p> <p>Help to make decisions about what observations to make and how long to make them for.</p>	<p>Set up simple practical enquiries, comparative and fair tests.</p> <p>Recognise when a simple fair test is necessary and help to decide how to set it up.</p> <p>Think of more than one variable factor.</p> <p>Make systematic and careful observation and where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</p> <p>Make decisions about what observations to make and how long to make them for.</p> <p>Decide what simple equipment to use.</p>	<p>Begin to make their own decisions about what observations to make, what measurements to use and how long to make them for.</p> <p>Begin to use test results to make predictions to set up further comparative and fair tests.</p> <p>Begin to recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why.</p> <p>Suggest improvements to my method and begin to give reasons.</p> <p>Decide when it is appropriate to do a fair test.</p> <p>Begin to take measurements, using a</p>	<p>Make their own decisions about what observations to make, what measurements to use and how long to make them for.</p> <p>Use test results to make predictions to set up further comparative and fair tests.</p> <p>Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why.</p> <p>Suggest improvements to my method and give reasons.</p> <p>Decide when it is appropriate to do a fair test and why.</p> <p>Take measurements, using a range of scientific equipment, with increasing</p>



			Decide what simple equipment to use.		range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate	accuracy and precision, taking repeat readings when appropriate
Adaptive teaching	<p>Support pupils with larger/adapted equipment for investigations</p> <p>Support pupils with visual resources for vocabulary</p> <p>Multi sensory opportunities to engage pupils</p> <p>Adjust size of diagrams/tables based on motor skills</p> <p>Provide word mats to support with technical vocabulary</p> <p>Mixed ability pairings</p> <p>Provide pencil grips where necessary to support with control for drawing and writing</p> <p>Select equipment that is appropriate based on fine motor skills.</p> <p>Support with group work in sessions where needed</p> <p>Use photos and examples to support when setting up investigations/experiments</p>					

	Year 1 (KS1 Skills)	Year 2 (KS1 Skills)	Year 3 (Lower KS2 Skills)	Year 4 (Lower KS2 Skills)	Year 5 (Upper KS2 Skills)	Year 6 (Upper KS2 Skills)
Recording and reporting findings	<p>Gather and record data with some adult support, to help in answering questions.</p> <p>With support, use equipment and simple measurements to gather data.</p> <p>Begin to record simple data.</p> <p>Begin to record and communicate findings in a range of ways.</p> <p>Record results in a simple table that the teacher has provided.</p>	<p>Gather and record data to help in answering questions.</p> <p>Use equipment and simple measurements to gather data.</p> <p>Record simple data.</p> <p>Record and communicate findings in a range of ways.</p> <p>Show results in a table that my teacher has provided.</p> <p>With guidance, begin to notice patterns and relationships.</p>	<p>Gather, record, and begin to classify and present data in a variety of ways to help in answering questions.</p> <p>Begin to record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.</p> <p>Begin to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Use notes, simple tables and standard units and with support, decide how to record and analyse data.</p> <p>Begin to record results in tables and bar charts.</p>	<p>Gather, record, classify and present data in a variety of ways to help in answering questions.</p> <p>Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.</p> <p>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Use notes, simple tables and standard units to record observations and decide how to analyse data.</p> <p>Can record results in tables and bar charts.</p>	<p>Begin to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs.</p> <p>Begin to report and present findings from enquiries.</p> <p>Begin to decide how to record data from a choice of familiar approaches.</p> <p>Begin to choose how best to present data.</p>	<p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs.</p> <p>Report and present findings from enquiries.</p> <p>Decide how to record data from a choice of familiar approaches.</p> <p>Choose how best to present data.</p>
Adaptive teaching	<p>Adjust size of diagrams/tables based on motor skills</p> <p>Provide word mats to support with technical vocabulary</p> <p>Provide pencil grips where necessary to support with control for drawing and writing</p> <p>Support with group work in sessions where needed</p>					

Brake down into small steps - task board  
Use photos and examples to support when recording information  
Provide blank tables etc to record findings into

	Year 1 (KS1 Skills)	Year 2 (KS1 Skills)	Year 3 (Lower KS2 Skills)	Year 4 (Lower KS2 Skills)	Year 5 (Upper KS2 Skills)	Year 6 (Upper KS2 Skills)
Identifying, grouping and classifying	<p>Identify and classify with some support.</p> <p>Begin to observe and identify, compare and describe.</p> <p>Begin to use simple features to compare objects, materials and living things and, with help, decide how to sort and group them.</p>	<p>Identify and classify.</p> <p>Observe and identify, compare and describe.</p> <p>Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them.</p>	<p>Begin to identify differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Begin to talk about criteria for grouping, sorting and classifying and use simple keys.</p> <p>Begin to compare and group according to behaviour or properties, based on testing.</p>	<p>Identify differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Talk about criteria for grouping, sorting and classifying and use simple keys.</p> <p>Compare and group according to behaviour or properties, based on testing.</p>	<p>Begin to use and develop keys and other information records to identify, classify and describe living things and materials.</p>	<p>Use and develop keys and other information records to identify, classify and describe living things and materials.</p>
Adaptive teaching	<p>Support pupils with visual resources for vocabulary</p> <p>Multi sensory opportunities to engage pupils</p> <p>Provide sentence stems for comparison</p> <p>Visual cards for grouping and classifying</p> <p>Mixed ability pairings</p> <p>Provide word mats to support with technical vocabulary</p> <p>Provide pencil grips where necessary to support with control for drawing and writing</p> <p>Recap previous learning to support memory</p> <p>Support with group work in sessions where needed</p> <p>Break down into small steps - task board</p> <p>Use photos and examples to remind children of the investigations/experiment</p>					



	Year 1 (KS1 Skills)	Year 2 (KS1 Skills)	Year 3 (Lower KS2 Skills)	Year 4 (Lower KS2 Skills)	Year 5 (Upper KS2 Skills)	Year 6 (Upper KS2 Skills)
Research	<p>Begin to use simple secondary sources to find answers.</p> <p>Begin to find information from books and computers with help.</p> <p>Use games, action songs and rhymes to learn key knowledge.</p>	<p>Use simple secondary sources to find answers.</p> <p>Can find information to help me from books and computers with help.</p>	<p>Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations.</p>	<p>Recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations.</p>	<p>Begin to recognise which secondary sources will be most useful to research their ideas.</p>	<p>Recognise which secondary sources will be most useful to research their ideas.</p>
Adaptive teaching	<p>Provide text at the correct level for decoding</p> <p>Provide visual resources</p> <p>Provide word mats to support with technical vocabulary</p> <p>Provide iPad assistive technology e.g. screen readers, dictation software</p>					



	Year 1 (KS1 Skills)	Year 2 (KS1 Skills)	Year 3 (Lower KS2 Skills)	Year 4 (Lower KS2 Skills)	Year 5 (Upper KS2 Skills)	Year 6 (Upper KS2 Skills)
Conclusions	<p>Begin to use their observations and ideas to suggest answers to questions.</p> <p>Begin to talk about what they have found out and how they found it out.</p> <p>Begin to say what happened in an investigation.</p> <p>Begin to say whether they were surprised at the results or not.</p> <p>Begin to say what they would change about an investigation.</p>	<p>Use their observations and ideas to suggest answers to questions.</p> <p>Talk about what they have found out and how they found it out.</p> <p>Say what happened in an investigation.</p> <p>Say whether they were surprised at the results or not.</p> <p>Say what they would change about an investigation.</p>	<p>Begin to use results to draw simple conclusions,</p> <p>Make predictions for new values, suggest improvements and raise further questions.</p> <p>Begin to use straightforward scientific evidence to answer questions or to support their findings.</p> <p>With support, look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions.</p> <p>With support, identify new questions arising from the data, make new predictions and find ways of improving what they have already done.</p> <p>Begin to see a pattern in results.</p>	<p>Use results to draw simple conclusions,</p> <p>Make predictions for new values, suggest improvements and raise further questions.</p> <p>Use straightforward scientific evidence to answer questions or to support their findings.</p> <p>With support, if needed, look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions.</p> <p>Identify new questions arising from the data, make new predictions and find ways of improving what they have already done.</p> <p>See patterns in results.</p> <p>Say what they found out, linking cause and effect.</p>	<p>Begin to report and present 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.</p> <p>Begin to identify scientific evidence that has been used to support or refute ideas or arguments.</p> <p>Begin to use test results to make predictions to set up further comparatives and fair tests.</p> <p>Begin to look for different causal relationships in their data and identify evidence that refutes or supports their ideas.</p>	<p>Report and present 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.</p> <p>Identify scientific evidence that has been used to support or refute ideas or arguments.</p> <p>Draw conclusions based on their data and observations, use evidence to justify their ideas, use scientific knowledge and understanding to explain their findings.</p> <p>Use test results to make predictions to set up further comparatives and fair tests.</p> <p>Look for different causal relationships in their data and identify evidence that</p>



			<p>Say what they have found out, and begin linking cause and effect.</p> <p>Begin to say how they could make it better.</p> <p>Am beginning to answer questions from what they have found out.</p>	<p>Say how they could make it better.</p> <p>Answer questions from what they have found out.</p>	<p>Use their results to identify when further tests and observations are needed.</p> <p>Begin to separate opinion from fact.</p> <p>Begin to draw conclusions and identify scientific evidence.</p> <p>Use simple models. Know which evidence proves a scientific point.</p> <p>Begin to use test results to make predictions to set up further comparative and fair tests.</p>	<p>refutes or supports their ideas.</p> <p>Use results to identify when further tests and observations are needed.</p> <p>Separate opinion from fact.</p> <p>Know which evidence proves a scientific point.</p> <p>Use test results to make predictions to set up further comparative and fair tests.</p>
<p>Adaptive teaching</p>	<p>Support pupils with visual resources for vocabulary</p> <p>Provide sentence stems for comparison</p> <p>Visual cards for displaying conclusions</p> <p>Provide word mats to support with technical vocabulary</p> <p>Provide pencil grips where necessary to support with control for drawing and writing</p> <p>Recap previous learning to support memory</p> <p>Support with group work in sessions where needed</p> <p>Break down into small steps - task board</p> <p>Use alternative recording methods e.g. iPad talk to text</p> <p>Mixed ability pairings</p> <p>Provide iPad assistive technology e.g. screen readers, dictation software</p>					

	Year 1 (KS1 Skills)	Year 2 (KS1 Skills)	Year 3 (Lower KS2 Skills)	Year 4 (Lower KS2 Skills)	Year 5 (Upper KS2 Skills)	Year 6 (Upper KS2 Skills)
Vocabulary	<p>Use some simple scientific language</p> <p>Use comparative language with support.</p>	<p>Use simple scientific language and some science specific words.</p> <p>Use comparative language - bigger, faster etc</p>	<p>Begin to use some scientific language to talk and, later, write about what they have found out.</p> <p>Begin to use comparative and superlative language.</p>	<p>Use some scientific language to talk and, later, write about what they have found out.</p> <p>Use comparative and superlative language</p>	<p>Begin to read, spell and pronounce scientific vocabulary correctly.</p> <p>Begin to use relevant scientific language and illustrations to discuss, communicate and justify scientific ideas.</p> <p>Begin to confidently use a range of scientific vocabulary.</p> <p>Begin to use conventions such as trend, rogue result, support prediction and -er word generalisation.</p> <p>Begin to use scientific ideas when describing simple processes.</p> <p>Begin to use the correct science vocabulary</p>	<p>Read, spell and pronounce scientific vocabulary correctly.</p> <p>Use relevant scientific language and illustrations to discuss, communicate and justify scientific ideas.</p> <p>Confidently use a range of scientific vocabulary.</p> <p>Use conventions such as trend, rogue result, support prediction and -er word generalisation.</p> <p>Use scientific ideas when describing simple processes.</p> <p>Use the correct science vocabulary</p>
Adaptive teaching	<p>Support pupils with visual resources for vocabulary</p> <p>Multi sensory opportunities to engage pupils</p> <p>Provide word mats to support with technical vocabulary</p> <p>Pre teach vocabulary</p> <p>Read stories linked to unit so they hear vocabulary in context</p>					

Recap previous vocabulary to support memory  
Support with group work in sessions where needed  
Break down into small steps - task board  
Mixed ability pairings

	Year 1 (KS1 Skills)	Year 2 (KS1 Skills)	Year 3 (Lower KS2 Skills)	Year 4 (Lower KS2 Skills)	Year 5 (Upper KS2 Skills)	Year 6 (Upper KS2 Skills)
Understanding	<p>Begin to talk about how science helps us in our daily lives eg. predicting the weather to keep people safe/ waterproof materials</p> <p>Begin to understand science can sometimes be dangerous.</p>	<p>Talk about how science helps us in our daily lives eg. torches and lights help us see when it is dark.</p> <p>Begin to understand science can sometimes be dangerous.</p>	<p>Begin to know which things in science have made our lives better.</p> <p>Begin to understand risk in science.</p>	<p>Know which things in science have made our lives better.</p> <p>Understand there is some risk in science.</p>	<p>Begin to talk about how scientific ideas have changed over time.</p> <p>Begin to explain the positive and negative effects of scientific development.</p> <p>Begin to see how science is useful in everyday life.</p> <p>Begin to say which parts of our lives rely on science.</p>	<p>Talk about how scientific ideas have changed over time.</p> <p>Explain the positive and negative effects of scientific development.</p> <p>See how science is useful in everyday life.</p> <p>Say which parts of our lives rely on science.</p>
Adaptive teaching	<p>Support pupils with larger/adapted equipment for investigations</p> <p>Support pupils with visual resources for vocabulary</p> <p>Multi-sensory opportunities to engage pupils</p> <p>Adjust size of diagrams/tables based on motor skills</p> <p>Provide word mats to support with technical vocabulary</p> <p>Provide pencil grips where necessary to support with control for drawing and writing</p> <p>Recap previous learning to support memory</p> <p>Select equipment that is appropriate based on fine motor skills.</p> <p>Support with group work in sessions where needed</p> <p>Break down into small steps - task board</p> <p>Use photos and examples to support when setting up investigations/experiments</p>					

Year 7 information	Year 7
	<p>Interpret data from a variety of formats and recognise inconsistencies.            Give explanations for differences in repeated results.            Draw valid conclusions that use more than one piece of supporting evidence.            Evaluate my work and make suggestions for improvement.            Identify several variables and select the best one/s to investigate.            Say why equipment is appropriate to the task.            Make suggestions to control risk.            Decide which format is best to present data.            Use scientific conventions to explain abstract ideas.            Know the difference between scientific evidence and opinion.            Understand that people have different ideas about science.            Say how science affects me and other people in different ways.            Understand that science can be used in a positive way.            Use more than one step to describe a process.            Explain scientific ideas in a clear and detailed way.            Identify strengths and weaknesses in science models and thoughts.</p>