Foxdell Primary School
Skills Progression in Science

	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Questioning and enquiry planning	Ask questions to find out more and to check what has been said to them. Ask questions to clarify their own understanding.	Begin to explore the world around them by asking some simple scientific questions. Begin to recognise that simple questions 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? Explore the world around them, leading them to ask some simple scientific questions about how and why things happen. Begin to recognise ways in which they might answer scientific questions such as asking people questions and using simple secondary sources to find answers.	Ask some relevant questions and use different types of scientific enquiries to answer them. Begin to explore everyday phenomena and the relationships between living things and familiar environments. Begin to develop their ideas about functions, relationships and interactions. Begin to raise their own questions about the world around them. Begin to make some decisions about which types of enquiry will be the best way of answering questions	Ask relevant questions and use different types of scientific enquiries to answer them. Explore everyday phenomena and the relationships between living things and familiar environments. Begin to develop their ideas about functions, relationships and interactions. Raise their own questions about the world around them. Make some decisions about which types of enquiry will be the best way of answering questions.	Begin to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Begin to explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically. Begin to recognise some more abstract ideas and begin to recognise how these ideas help them to understand how the world operates. Begin to recognise scientific ideas change and scientific ideas change and develop over time. Begin to select the most appropriate ways to answer science questions using different types of scientific enquiry	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically. Begin to recognise more abstract ideas and begin to recognise how these ideas help them to understand how the world operates. Begin to recognise scientific ideas change and scientific ideas change and develop over time. Begin to select the most appropriate ways to answer science questions using different types of scientific enquiry develop over time. Select the most appropriate ways to answer science questions using

							different types of scientific enquiry.
Observing + measuring Pattern seeking	Explore the natural world around them. Understanding the effect of changing seasons on the natural world around them.	Use simple equipment and begin to make simple observations. Observe changes across the four seasons.	Use simple equipment such as thermometers and rain gauges and make simple observations. Observe closely changes over time. Begin to make simple observations of the natural and humanly-constructed world around them.	Begin to make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used. Learn to use some new equipment appropriately (eg data loggers). Begin to see a pattern in my results. Begin to choose from a selection of equipment. Begin to observe and measure accurately using standard units including time in minutes and seconds.	Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used. Learn to use some new equipment appropriately (e.g. data loggers). Can see a pattern in my results. Can choose from a selection of equipment. Can observe and measure accurately using standard units including time in minutes and seconds.	Begin to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate. Begin to identify patterns that might be found in the natural environment. Begin to make their own decisions about what observations to make, what measurements to use and how long to make them for and whether to repeat them. Choose the most appropriate equipment and explain how to use it accurately. Begin to interpret data and find patterns. Select equipment on my own. Can make a set of observations and say what the interval and range are. Begin to take accurate and precise measurements – N, g, kg, mm, cm, mins, seconds, cm²V, km/h, m per sec, m/ sec Graphs – pie, line	Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate. Identify patterns that might be found in the natural environment. Make their own decisions about what observations to make, what measurements to use and how long to make them for and whether to repeat them. Choose the most appropriate equipment and explain how to use it accurately. Can interpret data and find patterns. Select equipment on my own. Can make a set of observations and say what the interval and range are. Accurate and precise measurements – N, g, kg, mm, cm, mins, seconds, cm²V, km/h, m per sec, m/ sec Graphs – pie, line, bar
Investigating	Use talk to help work out problems and organise thinking and activities.	Begin to experience different types of scientific enquiries. Use simple equipment. Perform simple tests	Experience different types of scientific enquiries. Use simple equipment to observe closely including changes over time	Set up some simple practical enquiries, comparative and fair tests. Begin to recognise when a simple fair test is necessary and help to decide how to set it up.	Set up simple practical enquiries, comparative and fair tests. Recognise when a simple fair test is necessary and help to decide how to set it up.	Begin to use test results to make predictions to set up further comparative and fair tests. Begin to recognise when and how to set up comparative and fair	Use test results to make predictions to set up further comparative and fair tests. Recognise when and how to set up comparative and fair tests and explain which

			Perform simple tests	Begin to think of more than one variable factor	Can think of more than one variable factor.	tests and explain which variables need to be controlled and why. Begin to suggest improvements to my method and give reasons. Begin to decide when it is appropriate to do a fair test.	variables need to be controlled and why. Suggest improvements to my method and give reasons. Decide when it is appropriate to do a fair test.
Recording and reporting findings	Describe what they see, hear and feel when they are outside. Make observations and draw pictures.	Begin to record and communicate findings in a range of ways. Begin to and with guidance, gather and record data in a variety of ways to help in answering questions.	Record and communicate findings in a variety of ways. Gather and record data to help in answering questions including from secondary sources of information using drawings, labelled diagrams, block graphs or tables.	Gather, record, and begin to classify and present data in a variety of ways to help in answering questions. Begin to record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. Begin to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Begin to use notes, simple tables and standard units and help to decide how to record and analyse their data. Begin to record results in tables and bar charts.	Gather, record, classify and present data in a variety of ways to help in answering questions. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Use notes, simple tables and standard units and help to decide how to record and analyse their data. Can record results in tables and bar charts.	Begin to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs. Begin to report and present findings from enquiries. Begin to decide how to record data from a choice of familiar approaches. Begin to choose how best to present data.	Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs. Report and present findings from enquiries. Decide how to record data from a choice of familiar approaches. Can choose how best to present data
Identifying, grouping and classifying		Use simple given features to identify and classify e.g. Mammals and birds, materials.	Identify, group and classify according to a given criteria e.g. Deciduous and coniferous trees e.g. using a Venn Diagram.	Begin to identify differences, similarities or changes related to simple scientific ideas and processes. Begin to talk about criteria for grouping, sorting and classifying and use simple keys. Begin to compare and group according to behaviour or properties, based on testing.	Identify differences, similarities or changes related to simple scientific ideas and processes. Talk about criteria for grouping, sorting and classifying and use simple keys. Compare and group according to behaviour or properties, based on testing.	Begin to use and develop keys and other information records to identify, classify and describe living things and materials.	Use and develop keys and other information records to identify, classify and describe living things and materials.

Research				Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations	Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations.	Begin to recognise which secondary sources will be most useful to research their ideas.	Recognise which secondary sources will be most useful to research their ideas.
Conclusions	Explain how things work and why they might happen.	With guidance, and following discussions use simple and scientific language, to make a simple statement about what has been learned from an investigation. With guidance, and class discussions use his/her observations and ideas to suggest answers to questions.	With guidance, use simple and age appropriate scientific language to make a simple statement about what has been learned from an investigation. With guidance begin to communicate his/her Ideas, what he/she does and what he/she finds out.	Beginning to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Beginning to use straightforward scientific evidence to answer questions or to support their findings. With help, begin to look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. With support, beginning to identify new questions arising from the data, make new predictions and find ways of improving what they have already done. Beginning to see patterns in results. Beginning to say what I found out, linking cause and effect. Beginning to say how I could make it better. Beginning to answer questions from what I have found out.	Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Use straightforward scientific evidence to answer questions or to support their findings. With help, look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. With support, identify new questions arising from the data, make new predictions and find ways of improving what they have already done. Can see a pattern in my results. Can say what I found out, linking cause and effect. Can say how I could make it better. Can answer questions from what I have found out	Am beginning 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. Begin to identify scientific evidence that has been used to support or refute ideas or arguments. Begin to draw conclusions based on their data and observations, use evidence to justify their ideas, use scientific knowledge and understanding to explain their findings. Begin to use test results to make predictions to set up further comparatives and fair tests. Begin to look for different causal relationships in their data and identify evidence that refutes or supports their ideas. Use their results to identify when further tests and observations are needed.	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. Identify scientific evidence that has been used to support or refute ideas or arguments. Draw conclusions based on their data and observations, use evidence to justify their ideas, use scientific knowledge and understanding to explain their findings. Use test results to make predictions to set up further comparatives and fair tests. Look for different causal relationships in their data and identify evidence that refutes or supports their ideas. Use their results to identify when further tests and observations are needed. Separate opinion from fact. Can draw conclusions and identify scientific evidence.

						Begin to separate opinion from fact. Begin to draw conclusions and identify scientific evidence. Can use simple models. Know which evidence proves a scientific point. Begin to use test results to make predictions to set up further comparative and fair tests.	Can use simple models. Know which evidence proves a scientific point. Use test results to make predictions to set up further comparative and fair tests.
Vocabulary	Begin to learn and be exposed to new vocabulary.	With guidance, begin to use simple and age appropriate scientific language.	With guidance, begin to use simple and age appropriate scientific language.	Use some scientific language to talk and, later, write about what they have found out. Use relevant scientific language. Begin to use comparative and superlative language.	Use some scientific language to talk and, later, write about what they have found out. Use relevant scientific language. Use comparative and superlative language.	Beginning to read, spell and pronounce scientific vocabulary correctly. Beginning to use relevant scientific language and illustrations to discuss, communicate and justify scientific ideas. Beginning to confidently use a range of scientific vocabulary. Beginning to use conventions such as trend, rogue result, support prediction. Am beginning to use scientific ideas when describing simple processes. Am beginning to use the correct science vocabulary	Read, spell and pronounce scientific vocabulary correctly. Use relevant scientific language and illustrations to discuss, communicate and justify ideas. Can confidently use a range of scientific vocabulary. Can use conventions such as trend, rogue result, support prediction. Can use scientific ideas when describing simple processes. Can use the correct science vocabulary