Willoughby Whole School Science Progression

Skills						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Questioning and enquiry planning	Ask simple questions about the world around us. Begin to recognise that they can be answered in different ways	Ask questions about the world around us. Recognise that they can be answered in different ways.	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 develop over time.	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 develop over time.

					Begin to select the most appropriate ways to answer science questions using different types of scientific enquiry	Select the most appropriate ways to answer science questions using different types of scientific enquiry.
Observing + measuring Pattern seeking	Begin to observe closely, using simple equipment. Use simple observations and ideas to suggest answers to questions. To observe simple changes over time and, with guidance, begin to notice patterns and relationships. To say what I am looking for and what I am measuring. To know how to use simple equipment safely. Use simple measurements and equipment with support (eg hand lenses and egg timers)	Observe closely, using simple equipment. Use observations and ideas to suggest answers to questions. To observe changes over time and, with guidance, begin to notice patterns and relationships. To say what I am looking for and what I am measuring. To know how to use simple equipment safely. Use simple measurements and equipment with increasing independence (eg hand lenses and egg timers) Begin to progress from non-standard	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	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 new equipment appropriately (eg data loggers). Can see a pattern in my results. Can	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	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.

	Begin to progress from non-standard units, reading cm, m, cl, l, °C	units, reading mm, cm, m, ml, l, °C	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.	choose from a selection of equipment. Can observe and measure accurately using standard units including time in minutes and seconds.	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, cm^2V, km/h, m per sec, m/ sec Graphs – pie, line	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, cm^2V, km/h, m per sec, m/ sec Graphs – pie, line, bar (Year 6)
Investigating	Perform simple tests with support. To begin to discuss my ideas about how to find things out. To begin to say what happened in my investigation	Perform simple tests. To discuss my ideas about how to find things out. To say what happened in my investigation.	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. Begin to think of more than one variable factor	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. Can think of more than one variable factor.	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 tests and explain which variables need to be controlled and why. Begin to suggest improvements to my method and give reasons.	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 variables need to be controlled and why. Suggest improvements to my method and give reasons.

					Begin to decide when it is appropriate to do a fair test	Decide when it is appropriate to do a fair test.
Recording and reporting findings	Gather and record data with some adult support, to help in answering questions. Begin to record simple data. Begin to record and communicate their findings in a range of ways.	Gather and record data to help in answering questions. Record simple data. Record and communicate their findings in a range of ways. Can show my results in a table that my teacher has provided.	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.	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

			Begin to record results in tables and bar charts.			
Identifying, grouping and classifying	Identify and classify with some support. To begin to observe and identify, compare and describe. To begin to use simple features to compare objects, materials and living things and, with help, decide how to sort and group them.	Identify and classify. Observe and identify, compare and describe. Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them.	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	To begin to use simple secondary sources to find answers. To begin to find information to help me from books and computers with help.	Use simple secondary sources to find answers. Can find information to help me from books and computers with help	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	Begin to talk about what they have found out and how they found it out. To begin to say what happened in my investigation.	Talk about what they have found out and how they found it out. To say what happened in my investigation.	I am beginning to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.	Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.	Am beginning to report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in	Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in

	To begin to say whether I was surprised at the results or not. To begin to say what I would change about my investigation.	To say whether I was surprised at the results or not. To say what I would change about my investigation.	Am beginning to use straightforward scientific evidence to answer questions or to support their findings. With help, am beginning to look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. With support, am beginning to identify new questions arising from the data, make new predictions and find ways of improving what they have already done. Am beginning to see a pattern in my results. Am beginning to say what I found out, linking cause and effect.	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	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	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

			Am beginning to say how I could make it better. Am beginning to answer questions from what I have found out.		observations are needed. 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.	observations are needed. Separate opinion from fact. Can draw conclusions and identify scientific evidence. 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	Use some simple scientific language Begin to use some science words. Use comparative language with support.	Use simple scientific language and some science words. Use comparative language – bigger, faster etc	Begin to use some scientific language to talk and, later, write about what they have found out. Begin to 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.	Am beginning to read, spell and pronounce scientific vocabulary correctly. Am beginning to use relevant scientific language and illustrations to discuss, communicate and justify scientific ideas. Am beginning to confidently use a range of scientific vocabulary.	Read, spell and pronounce scientific vocabulary correctly. Use relevant scientific language and illustrations to discuss, communicate and justify scientific ideas. Can confidently use a range of scientific vocabulary. Can use conventions such as trend, rogue

					Am beginning to use conventions such as trend, rogue result, support prediction and - e r word generalisation. Am beginning to use scientific ideas when describing simple processes. Am beginning to use the correct science vocabulary	result, support prediction and - e r word generalisation. Can use scientific ideas when describing simple processes. Can use the correct science vocabulary.