Sandhurst Primary School	Progression in Working Scientifically					
	Year 1 (Key stage 1 skills)	**Year 2 (Key stage 1 skills)**	**Year 3 (Lower Key stage 2 skills)**	**Year 4 (Lower Key stage 2 skills)**	**Year 5 (Upper Key stage 2 skills)**	**Year 6 (Upper Key stage 2 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.	
Questioning and enquiring, Planning	Ask simple questions about the world around us. 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).	Ask questions about the world around us. 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).	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 including observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative and fair tests, finding things out using secondary sources.	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 including observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative and fair tests, finding things out using secondary sources. .	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. Begin to 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.)	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. 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.)

Progression in Working Scientifically

	Year 1 (Key stage 1 skills)	Year 2 (Key stage 1 skills)	Year 3 (Lower Key stage 2 skills)	Year 4 (Lower Key stage 2 skills)	Year 5 (Upper Key stage 2 skills)	Year 6 (Upper Key stage 2 skills)
Observing and measuring, Pattern seeking	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 (e.g. hand lenses and egg timers) . Begin to progress from non-standard units, reading mm, cm, m, ml, l, °C		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 (e.g. 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 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, cm^2V, 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. Make 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)

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	Year 1 (Key stage 1 skills)	**Year 2 (Key stage 1 skills)**	**Year 3 (Lower Key stage 2 skills)**	**Year 4 (Lower Key stage 2 skills)**	**Year 5 (Upper Key stage 2 skills)**	**Year 6 (Upper Key stage 2 skills)**
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. Begin to decide when it is appropriate to do a fair test.	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. Decide when it is appropriate to do a fair test.

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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. Can show my results in a simple table that my teacher has provided.	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. 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.

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	Year 1 (Key stage 1 skills)	**Year 2 (Key stage 1 skills)**	**Year 3 (Lower Key stage 2 skills)**	**Year 4 (Lower Key stage 2 skills)**	**Year 5 (Upper Key stage 2 skills)**	**Year 6 (Upper Key stage 2 skills)**
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.

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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 which secondary sources will be most useful to research their ideas.	Recognise which secondary sources will be most useful to research their ideas.

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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. To begin to say whether I was surprised at the results or not. To begin to say what I would change about my investigation.	Talk about what they have found out and how they found it out. To say what happened in my investigation. To say whether I was surprised at the results or not. To say what I would change about my investigation.	I am beginning to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. 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.	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.	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.	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.

			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. Am beginning to say how I could make it better. Am beginning to answer questions from what I have found out.	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.	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. 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.	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. 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.

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	Year 1 (Key stage 1 skills)	**Year 2 (Key stage 1 skills)**	**Year 3 (Lower Key stage 2 skills)**	**Year 4 (Lower Key stage 2 skills)**	**Year 5 (Upper Key stage 2 skills)**	**Year 6 (Upper Key stage 2 skills)**
Vocabulary	Use some simple scientific language Begin to use some science words. Use comparative language with support. I can begin to use simple scientific language.	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.	Begin to read, spell and pronounce scientific vocabulary correctly. Begin to use relevant scientific language and illustrations to discuss, communicate and justify scientific ideas. To confidently use a range of scientific vocabulary. To begin to use conventions such as trend, rogue result, support prediction. To use scientific ideas when describing simple processes. To begin to use the correct science 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 result, support prediction. Can use scientific ideas when describing simple processes. Can use the correct science vocabulary.

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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 –	Begin to use some scientific language to talk and, later, write about what they have found out. Begin to use relevant scientific language.	Use some scientific language to talk and, later, write about what they have found out. Use relevant scientific language.	To begin to read, spell and pronounce scientific vocabulary correctly. To begin to use relevant scientific language and illustrations to discuss,	Read, spell and pronounce scientific vocabulary correctly. Use relevant scientific language and illustrations to discuss, communicate and justify scientific ideas.

		bigger, faster etc.	Begin to use comparative and superlative language.	Use comparative and superlative language.	communicate and justify scientific ideas. To begin to confidently use a range of scientific vocabulary. To begin to use conventions such as trend, rogue result to support prediction. To begin to use scientific ideas when describing simple processes. To begin to use the correct science vocabulary.	Can confidently use a range of scientific vocabulary. Can use conventions such as trend, rogue result, support to prediction. Can use scientific ideas when describing simple processes. Can use the correct science vocabulary.

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Understanding	Can begin to talk about how science helps us in our daily lives e.g. torches and lights help us see hen it is dark. Am beginning to understand science can sometimes be dangerous.		Begin to know which things in science have made our lives better. Can begin to understand risk in science.	Knows which things in science have made our lives better. Can understand there is some risk in science.	Begin to talk about how scientific ideas have changed over time. Begin to explain the positive and negative effects of scientific development. Begin to see how science is useful in everyday life. Begin to say which parts of our lives rely on science.	Can talk about how scientific ideas have changed over time. Can explain the positive and negative effects of scientific development. Can see how science is useful in everyday life. Can say which parts of our lives rely on science.