Codicote C of E School Progression of skills in Science

	Foundation Stage	Year 1	Year 2
Questioning and enquiry planning	• To explore the effect of physical activity on their bodies. • To comment and ask questions about aspects of their familiar world, such as the place where they live or the natural world.	• Ask simple questions about the world around us. Begin to recognise that they can be answered in different ways. • Suggest what might happen.	• Ask questions about the world around us. Recognise that they can be answered in different ways. • Think how to collect evidence.
Observing + measuring	• To talk about some of the things they have observed, such as plants, animals, natural and found objects. • To talk about why things happen and how things work. • To know about similarities and differences in relation to places, objects, materials and living things. • Talk about the features of their own environment and how environments might very from one another.	• Begin to observe closely, using simple equipment. • Use simple observations and ideas to suggest answers to questions. • 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. • Observe changes over time and, with guidance, 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 nonstandard units, reading mm, cm, m, ml, l, °C

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Investigating	• To begin to be interested in and describe the texture of things.	• 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
Recording and reporting findings	• Begin to explain observations to others. • To record observations through mark making in drawings and words.	• 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. • Show results in a simple table provided by adult.	• 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 tablethat my teacher has provided.
Identifying, grouping and classifying	• To look closely at similarities, differences, patterns and change.	• Identify and classify with some support. • Begin to observe and identify, compare and describe. • 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.
Research	• To explore the environment and develop first hand experience of different resources and materials.	• Begin to use simple secondary sources to find answers. • Begin to find information to help me from books and computers with help.	• Use simple secondary sources to find answers. • Find information to help me from books and computers with help

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Conclusions	• Make simple oral observations.	• Begin to talk about what they have found out and how they found it out • Begin to say what happened in my investigation. • Begin to say whether I was surprised at the results or not.	• Talk about what they have found out and how they found it out. • Say what happened in my investigation. • Say whether I was surprised at the results or not. • Say what I would change about my investigation.

	Year 3	Year 4	Year 5	Year 6
Questioning and enquiry planning	• 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.	• 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	• 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	• 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

	Year 3	Year 4	Year 5	Year 6
	• 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.	world around them. • Make some decisions about which types of enquiry will be the best way of answering questions.	some more abstract ideas. • Begin to 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 worlds' scientific ideas change and scientific ideas change and develop over time. • Begin to select the most appropriate ways to answer science questions using	more abstract ideas and begin to recognise how these ideas help them to understand how the world operates. • Make Predictions. • Recognise scientific ideas change and scientific ideas change and develop over time. • Select the most appropriate ways to answer science questions using different types of scientific enquiry

	Year 3	Year 4	Year 5	Year 6
			different types of scientific enquiry	
Observing + measuring	• 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).	• 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). Identify a pattern in results.	• Begin to 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. • Begin to interpret data and find patterns. • Select equipment on my own.	• 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. • Interpret data and find patterns. • Select equipment on my own. • Make a set of

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	• 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. • Observe and measure accurately using standard units including time in minutes and seconds.	• 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	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	• 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. • 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 method selected and give reasons. • Decide when it is appropriate to do a fair test.

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Recording and reporting findings	• 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	• 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. • 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	• Begin to identify differences, similarities or changes related to simple scientific ideas and processes.	• Identify differences, similarities or changes related to simple scientific ideas and processes.	• Begin to use and develop keys and other information records to identify, classify and describe living things	• Use and develop keys and other information records to identify, classify and describe living thing

	Year 3	Year 4	Year 5	Year 6
	• 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.	• Talk about criteria for grouping, sorting and classifying and use simple keys. • Compare and group according to behaviour or properties, based on testing.	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	• Begin to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. • Begin to use straightforward scientific evidence to answer questions or to support their findings with help. • Begin to look for changes, patterns,	• Use 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. • Look for changes, patterns, similarities and differences in data in order to draw simple conclusions and answer	• 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. • Begin to identify scientific evidence that has been used to support or refute ideas	• 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. • Identify scientific evidence that has been used to support or refute ideas or

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	similarities and differences in data in order to draw simple conclusions and answer questions. • With support, begin to identify new questions arising from the data, make new predictions and find ways of improving what they have already done. Begin to see a pattern in results. • Begin to identify findings and cause and effect.	questions. • Identify new questions arising from the data, make new predictions and find ways of improving what has been done. • Identify patterns in results. • Report findings linking cause and effect. • Identify improvements and answer questions from findings.	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. • Begin to separate opinion from fact. • Begin to draw conclusions and identify scientific	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. • Draw conclusions and identify scientific evidence. • Use simple models. • Know which evidence proves a scientific

	Year 3	Year 4	Year 5	Year 6
			evidence. • 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.	point. • Use test results to make predictions to set up further comparative and fair tests.