Brierley CE (VC)Primary School
Science Primary Knowledge Curriculum
Progression in skills – Working Scientifically

	HT1	HT2	HT3	HT4	HT5	HT6
FS2	**Asking Questions & Planning** To know and understand 'why' questions **Investigating** To know how to use all their senses in hands-on exploration of natural materials. **Concluding & Reviewing** To know how to talk about what they see, **Scientific language** To use a wider scientific vocabulary.	**Asking Questions & Planning** To know how to ask questions to find out more and to check what has been said to them. To know how to use talk to work out problems and organise thinking and activities. **Investigating** To know how to describe what they see, hear and feel while they are outside. To know how to describe events in some detail. **Concluding & Reviewing** To know how to explain how things work and why they might happen. To know how to articulate their ideas and thoughts in well-formed sentences. **Scientific language** To know new scientific vocabulary.	**Asking Questions & Planning** To know how to ask questions to find out more and to check what has been said to them. To know how to use talk to work out problems and organise thinking and activities. **Investigating** To know how to describe what they see, hear and feel while they are outside. To know how to describe events in some detail. **Concluding & Reviewing** To know how to explain how things work and why they might happen. To know how to articulate their ideas and thoughts in well-formed sentences. **Scientific language** To know new scientific vocabulary.	**Asking Questions & Planning** To know how to ask questions to find out more and to check what has been said to them. To know how to use talk to work out problems and organise thinking and activities. **Investigating** To know how to describe what they see, hear and feel while they are outside. To know how to describe events in some detail. **Concluding & Reviewing** To know how to explain how things work and why they might happen. To know how to articulate their ideas and thoughts in well-formed sentences. **Scientific language** To know how to use new scientific vocabulary in different contexts.	**HT5 & 6** **Investigating** To know how to explore the natural world around them. To know how to describe what they see, hear and feel while they are outside. **Concluding & Reviewing** To know how to make comments about what they have heard and ask questions to clarify their understanding. **Scientific language** To know how to use new scientific vocabulary in different contexts.	**Investigating** To know how to explore the natural world around them. To know how to describe what they see, hear and feel while they are outside. **Concluding & Reviewing** To know how to make comments about what they have heard and ask questions to clarify their understanding. **Scientific language** To know how to use new scientific vocabulary in different contexts
Y1	**The Human Body** **Investigating** To make observations and use simple equipment To perform simple tests with guidance **Identifying, Grouping & Classifying** To identify and classify	**Animals and their Needs** **Identifying, Grouping & Classifying** To identify and classify living things To use simple features to compare living things and with help decide how to sort and group them. To record and communicate their findings in a range of ways	**Seasons & Weather** **Asking Questions & Planning** To ask simple questions and recognise they can be answered in different ways **Investigating** To observe closely using different equipment To gather and record data to help answer questions To use simple measurements and equipment to gather data	**Taking Care of the Earth** **Identifying, Grouping & Classifying** To identify and classify resources To record and communicate their findings in a range of ways **Research** To ask people questions and use simple secondary sources to find answers	**Plants** **Asking Questions & Planning** To ask simple questions and recognise they can be answered **Investigating** To observe closely and use appropriate equipment To perform simple tests To gather and record data to help answer questions To use simple measurements and equipment to gather data	**Materials & Magnets** **Investigating** To observe closely and use simple equipment with some independence To gather and record data to help in answering questions **Identifying, Grouping & Classifying** To identify and classify materials To use simple features to compare and sort materials

Research To ask people questions and use simple secondary sources to find answers **Scientific Language** Use simple scientific vocabulary related to the human body, senses and working scientifically and begin to use it in context	**Concluding & Reviewing** To use their observations and ideas to suggest answers to questions **Scientific Language** Use simple scientific vocabulary related to different animals and their needs and working scientifically and begin to use it in context	To record simple data To record and communicate their findings in a range of ways **Concluding & Reviewing** To use their observations and ideas to suggest answers to questions To talk about what they have found out and how they found out **Scientific Language** Use simple scientific vocabulary related to the seasons, weather and working scientifically and begin to use it in context	Scientific Language Use simple scientific vocabulary related to taking care of the environment and working scientifically and begin to use it in context	To record and communicate their findings in a range of ways **Identifying, Grouping & Classifying** To use simple features to compare plants and with help decide how to sort and group them. **Concluding & Reviewing** To use their observations and ideas to suggest answers to questions To begin to notice (with help) patterns and relationships To talk about what they have found out and how they found out **Scientific Language** Use simple scientific vocabulary related to plants (including trees) and working scientifically and begin to use it in context	To record and communicate their findings in a range of ways **Concluding & Reviewing** To begin to notice (with help) patterns and relationships **Scientific Language** Use simple scientific vocabulary related to different materials, magnets and working scientifically and begin to use it in context
Y2 — The Human Body **Asking Questions & Planning** To ask simple questions and recognise they can be answered in different ways **Research** To ask people questions and use simple secondary sources to find answers Record and communicate findings in a range of ways **Scientific Language** Use simple scientific vocabulary related to the human body and working scientifically and begin to use it in context	Living Things in their Environment **Asking Questions & Planning** To ask simple questions and recognise they can be answered in different ways **Investigating** To gather and record data to help answer questions **Scientific Language** Use simple scientific vocabulary related to living things in their environments and working scientifically and begin to use it in context	Electricity **Identifying, Grouping & Classifying** To identify and classify Record and communicate findings in a range of ways **Research** To ask people questions and use simple secondary sources to find answers **Scientific Language** Use simple scientific vocabulary related to electricity and working scientifically and begin to use it in context	Plants **Asking Questions & Planning** To ask simple questions and recognise they can be answered in different ways **Investigating** To observe closely using simple equipment To perform simple tests To use their observations and ideas to suggest answers to questions To gather and record data to help in answering questions To use simple measurements and equipment to gather data To record and communicate their findings in a range of ways **Concluding & Reviewing** To talk about what they have found out and how they found out	Materials & Magnets **Investigating** To observe closely using simple equipment and with increasing independence To perform simple tests To use their observations and ideas to suggest answers to questions To gather and record data to help in answering questions To use simple measurements and equipment to gather data To record and communicate their findings in a range of ways **Concluding & Reviewing** To talk about what they have found out and how they found out **Scientific Language** Use simple scientific vocabulary related to different materials, states of matter and working	Astronomy **Asking Questions & Planning** To ask simple questions and recognise they can be answered in different ways **Investigating** To observe closely using simple equipment with independence To perform simple tests To use their observations and ideas to suggest answers to questions To gather and record data to help in answering questions To use simple measurements and equipment to gather data To record and communicate their findings in a range of ways **Identifying, Grouping & Classifying** To identify and classify resources To record and communicate their findings in a range of ways

				Scientific Language	scientifically and begin to use it in context	Concluding & Reviewing
				Use simple scientific vocabulary related to growing plants and working scientifically and begin to use it in context		To talk about what they have found out and how they found out Scientific Language Use simple scientific vocabulary related to the solar system and working scientifically and begin to use it in context
Y3	**The Human Body** **Asking Questions & Planning** To make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used **Investigating** To gather, record, classify and presenting data in a variety of ways to help in answering questions. To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. **Identifying, Grouping & Classifying** To talk about criteria for grouping, sorting and classifying; and use simple keys To identify differences, similarities or changes related to simple scientific ideas and processes. **Reporting, Concluding & Reviewing** To report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions To use results to draw simple conclusions, make predictions for new values, suggest	**Cycles in Nature** **Investigating** To use new equipment, including thermometers and data loggers To gather, record, classify and present data in a variety of ways using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.to help in answering questions. **Identifying, Grouping & Classifying** To identify differences, similarities or changes related to simple scientific ideas and processes. **Reporting, Concluding & Reviewing** To look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions **Scientific Language** Use relevant simple scientific language to discuss their ideas and communicate their findings on different cycles in nature	**Light** **Investigating** To make systematic and careful observations and, where appropriate, taking accurate measurements. using standard units, using a range of equipment, including thermometers and data loggers **Identifying, Grouping & Classifying** To identify differences, similarities or changes related to simple scientific ideas and processes. **Scientific Language** Use relevant simple scientific language to discuss their ideas and communicate their findings on light	**Plants** **Asking Questions & Planning** To ask relevant questions and use different types of scientific enquiries to answer them. **Investigating** To set up simple practical enquiries, comparative and fair tests. To make systematic and careful observations and, where appropriate, taking accurate measurements. using standard units, using a range of equipment, including thermometers and data loggers To gather data from their own observations and measurements, using notes, simple tables and standard units, and help to make decisions about how to record and analyse this data To record, classify and presenting data in a variety of ways to help in answering questions. To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. **Identifying, Grouping & Classifying** To identify differences, similarities or changes related to simple scientific ideas and processes.	**Rocks** **Asking Questions & Planning** To ask relevant questions and use different types of scientific enquiries to answer them. To recognise when a simple fair test is necessary and help to decide how to set it up To make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used **Investigating** To set up simple practical enquiries, comparative and fair tests. To gather data from their own observations and measurements, using notes, simple tables and standard units, and help to make decisions about how to record and analyse this data To record, classify and presenting data in a variety of ways to help in answering questions. To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. **Identifying, Grouping & Classifying** To identify differences, similarities or changes related to simple scientific ideas and processes.	**Forces & Magnets** **Asking Questions & Planning** To ask relevant questions and use different types of scientific enquiries to answer them. To recognise when a simple fair test is necessary and help to decide how to set it up To make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used **Investigating** To set up simple practical enquiries, comparative and fair tests. To make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. To gather data from their own observations and measurements, using notes, simple tables and standard units, and help to make decisions about how to record and analyse this data To record, classify and presenting data in a variety of ways to help in answering questions. To record findings using simple scientific language, drawings,

improvements and raise further questions. **Scientific Language** Use relevant simple scientific language to discuss their ideas and communicate their findings on the human body and its systems.			To talk about criteria for grouping, sorting and classifying; and use simple keys **Reporting, Concluding & Reviewing** To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. **Scientific Language** Use relevant simple scientific language to discuss their ideas and communicate their findings on flowering plants.	To talk about criteria for grouping, sorting and classifying; and use simple keys To use straightforward scientific evidence to answer questions or to support their findings. **Reporting, Concluding & Reviewing** To look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions To report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions **Scientific Language** Use relevant simple scientific language to discuss their ideas and communicate their findings on rocks and soils	labelled diagrams, keys, bar charts, and tables. **Identifying, Grouping & Classifying** To use straightforward scientific evidence to answer questions or to support their findings. **Reporting, Concluding & Reviewing** To look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions To report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions using results to draw simple conclusions, make predictions for new values within or beyond the data they have collected and suggest improvements and raise further questions **Scientific Language** Use relevant simple scientific language to discuss their ideas and communicate their findings on forces and magnets.
Y4	**The Human Body** **Investigating** To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. **Identifying, Grouping & Classifying** To talk about criteria for grouping, sorting and classifying; and use simple keys To identify differences, similarities or changes related to simple scientific ideas and processes. **Scientific Language**	**Classification of Plants & Animals** **Investigating** To set up simple practical enquiries, comparative and fair tests. To make systematic and careful observations and, where appropriate, taking accurate measurements. using standard units, using a range of equipment, including thermometers and data loggers To gather, record, classify and presenting data in a variety of ways to help in answering	**Ecology** **Asking Questions & Planning** To ask relevant questions and use different types of scientific enquiries to answer them. To make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used **Investigating** To set up simple practical enquiries, comparative and fair tests.	**Sound** **Asking Questions & Planning** To ask relevant questions and use different types of scientific enquiries to answer them. To recognise when a simple fair test is necessary and help to decide how to set it up To make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used **Investigating**	**The Water Cycle (States of Matter)** **Asking Questions & Planning** To make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used To recognise when a simple fair test is necessary and help to decide how to set it up **Investigating** To set up simple practical enquiries, comparative and fair tests.	**Electricity** **Asking Questions & Planning** To recognise when a simple fair test is necessary and help to decide how to set it up **Investigating** To set up simple practical enquiries, comparative and fair tests. To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables To use new equipment, including thermometers and data loggers

Use relevant simple scientific language to discuss their ideas and communicate their findings on the human body, digestion and nutrition	questions. **To record findings using simple scientific language**, drawings, labelled diagrams, keys, bar charts, and tables. **Identifying, Grouping & Classifying** To identify differences, similarities or changes related to simple scientific ideas and processes. To talk about criteria for grouping, sorting and classifying; and use simple keys **Reporting, Concluding & Reviewing** To look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. **Scientific Language** Use relevant simple scientific language to discuss their ideas and communicate their findings on the classification of plants and animals	To gather data from their own observations and measurements, using notes, simple tables and standard units, and help to make decisions about how to record and analyse this data To record, classify and presenting data in a variety of ways to help in answering questions. **Identifying, Grouping & Classifying** To identify differences, similarities or changes related to simple scientific ideas and processes **Reporting, Concluding & Reviewing** To use results to draw simple conclusions, make predictions for new values, within or beyond the data they have collected and suggest improvements to what they have already done and raise further questions. To look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions **Scientific Language** Use relevant simple scientific language to discuss their ideas and communicate their findings on ecology	To set up simple practical enquiries, comparative and fair tests. To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. To gather, record, classify and presenting data in a variety of ways to help in answering questions. **Reporting, Concluding & Reviewing** To use results to draw simple conclusions, make predictions for new values, within or beyond the data they have collected and suggest improvements to what they have already done and raise further questions. To identify differences, similarities or changes related to simple scientific ideas and processes. To look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions **Scientific Language** Use relevant simple scientific language to discuss their ideas and communicate their findings on sound	To use new equipment, including thermometers and data loggers To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. **Identifying, Grouping & Classifying** To identify differences, similarities or changes related to simple scientific ideas and processes. **Reporting, Concluding & Reviewing** To look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions **Scientific Language** Use relevant simple scientific language to discuss their ideas and communicate their findings on the water cycle and changing states of matter	**Reporting, Concluding & Reviewing** To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions To look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions **Scientific Language** Use relevant simple scientific language to discuss their ideas and communicate their findings on electricity, circuits and conductors
Y5	The Human Body **Asking Questions & Planning** To plan different types of scientific enquiries, the most appropriate type, to answer scientific questions, including recognising when and how to set up comparative and fair tests and controlling variables where necessary, explaining which variables need to be controlled and why.	Materials **Asking Questions & Planning** To plan different types of scientific enquiries, the most appropriate type, to answer scientific questions, including recognising when and how to set up comparative and fair tests and controlling variables where necessary, explaining which variables need to be controlled and why.	Living Things **Asking Questions & Planning** To plan the most appropriate type of scientific enquiry to use to answer a scientific question **Identifying, Grouping & Classifying** To use and develop keys and other information records to identify, classify and describe living things and materials	Forces **Asking Questions & Planning** To plan different types of scientific enquiries, the most appropriate type, to answer scientific questions, including recognising when and how to set up comparative and fair tests and controlling variables where necessary, explaining which variables need to be controlled and why.	Astronomy **Asking Questions & Planning** To make own decisions about what observations to make, what measurements to use and how long to make them for, and whether to repeat them **Reporting, Concluding & Reviewing** To look for different causal relationships in data and identify evidence that refutes or supports	Meteorology **Asking Questions & Planning** To choose the most appropriate equipment to make measurements and explain how to use it accurately **Investigating** To take measurements using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate

To make own decisions about what observations to make, what measurements to use and how long to make them for, and whether to repeat them **Investigating** To take measurements using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate To record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs **Reporting, Concluding & Reviewing** To use test results to make predictions to set up further comparative and fair tests or observations To look for different causal relationships in data and identify evidence that refutes or supports their ideas. 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 **Research** To identify scientific evidence that has been used to support or refute ideas or arguments relating to the human body To talk about how scientific ideas have developed over time relating to the human body **Scientific Language** Use scientific language and illustrations to discuss, communicate and justify their	To make own decisions about what observations to make, what measurements to use and how long to make them for, and whether to repeat them To choose the most appropriate equipment to make measurements and explain how to use it accurately To decide how to record data from a choice of familiar approaches **Investigating** To take measurements using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate **Identifying, Grouping & Classifying** To use and develop keys and other information records to identify, classify and describe living things and materials **Reporting, Concluding & Reviewing** To use test results to make predictions to set up further comparative and fair tests or observations To look for different causal relationships in data and identify evidence that refutes or supports their ideas. 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	**Reporting, Concluding & Reviewing** 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 **Research** To identify scientific evidence that has been used to support or refute ideas or arguments relating to living things & life processes **Scientific Language** Use scientific language and illustrations to discuss, communicate and justify their scientific ideas on life cycles of living things	To make own decisions about what observations to make, what measurements to use and how long to make them for, and whether to repeat them To decide how to record data from a choice of familiar approaches **Investigating** To take measurements using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate To record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs **Reporting, Concluding & Reviewing** To use test results to make predictions to set up further comparative and fair tests or observations To look for different causal relationships in data and identify evidence that refutes or supports their ideas. 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 **Research** To identify scientific evidence that has been used to support or refute ideas or arguments relating to forces	their ideas **Research** To identify scientific evidence that has been used to support or refute ideas or arguments To talk about how scientific ideas have developed over time **Scientific Language** Use scientific language and illustrations to discuss, communicate and justify their scientific ideas on astronomy and the solar system	To record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs **Scientific Language** Use scientific language and illustrations to discuss, communicate and justify their scientific ideas on the weather and meteorology

scientific ideas on the human body and it's growth and development	**Research** / To identify scientific evidence that has been used to support or refute ideas or arguments relating to materials / **Scientific Language** / Use scientific language and illustrations to discuss, communicate and justify their scientific ideas on properties of materials.		**Scientific Language** / Use scientific language and illustrations to discuss, communicate and justify their scientific ideas on different forces		
Y6 **The Human Body** **Asking Questions & Planning** To plan the most appropriate type of scientific enquiry to use to answer a scientific question To make own decisions about what observations to make, what measurements to use and how long to make them for, and whether to repeat them **Investigating** To choose the most appropriate equipment to make measurements and explain how to use it accurately **Reporting, Concluding & Reviewing** To use results to identify when further tests and observations might be needed **Scientific Language** Use scientific language and illustrations to discuss, communicate and justify their scientific ideas on the human body and it's circulatory system	**Classification of Living Things** **Identifying, Grouping & Classifying** To use and develop keys and other information records to identify, classify and describe living things and materials **Scientific Language** Use scientific language and illustrations to discuss, communicate and justify their scientific ideas on the classification of living things	**Electricity** **Asking Questions & Planning** To plan different types of scientific enquiries, to answer scientific questions, including recognising when and how to set up comparative and fair tests and controlling variables where necessary, explaining which variables need to be controlled and why. To make own decisions about what observations to make, what measurements to use and how long to make them for, and whether to repeat them To decide how to record data from a choice of familiar approaches **Investigating** To take measurements using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate To record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs	**Light** **Asking Questions & Planning** To plan different types of scientific enquiries, to answer scientific questions, including recognising and controlling variables when necessary. **Investigating** To take measurements using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate To record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs **Identifying, Grouping & Classifying** To use and develop keys and other information records to identify, classify and describe light **Reporting, Concluding & Reviewing** 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	**Reproduction** **Identifying, Grouping & Classifying** To use and develop keys and other information records to identify, classify and describe living things and materials **Scientific Language** Use scientific language and illustrations to discuss, communicate and justify their scientific ideas on reproduction of plants and animals	**Evolution** **Identifying, Grouping & Classifying** To use and develop keys and other information records to identify, classify and describe living things and materials **Scientific Language** Use scientific language and illustrations to discuss, communicate and justify their scientific ideas on evolution and inheritance

			Reporting, Concluding & Reviewing	and other presentations		
			To use test results to make predictions to set up further comparative and fair tests or observations	Research		
			To look for different causal relationships in data and identify evidence that refutes or supports their ideas.	To identify scientific evidence that has been used to support or refute ideas or arguments		
			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	To talk about how scientific ideas have developed over time		
				Scientific Language		
			Research	Use scientific language and illustrations to discuss, communicate and justify their scientific ideas on light and shadows		
			To identify scientific evidence that has been used to support or refute ideas or arguments			
			Scientific Language			
			Use scientific language and illustrations to discuss, communicate and justify their scientific ideas on electricity and circuits			