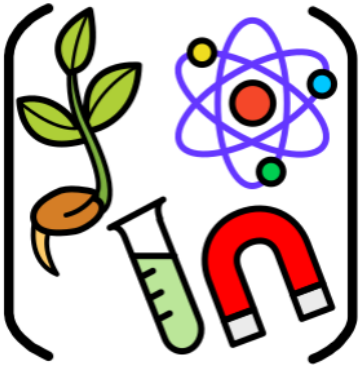
Science

Subject Intent

At Three Bridges Primary School, we want every child to **engage** with working scientifically to foster an **enjoyment** of science. This will be **achieved** through the implementation of an ambitious curriculum that promotes the real life application of science, and provides pupils with the knowledge and skills they need to succeed in life. Working scientifically helps pupils to develop **resilience** by overcoming problems and gives them the skills they need for future learning such as observation, questioning, enquiry and to become confident scientists.



Science progression:

Intent: The Science curriculum aims to nurture curiosity, embed knowledge and develop the enquiry skills that enable children to understand the science of the world around them.						
EYFS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Asking questions and recognising that they can be answered in different ways						
Can they ask questions about what they observe in the environment? Can they answer questions based on a scenario developed with the teacher? Can they show curiosity about the world around them?	Can they develop their ability to ask questions about the world? Such as: What is something? How are things similar and different? How do things change? How do things happen? Which alternative is better? Can they answer questions based on a scenario developed with the teacher? Can they suggest how to use resources to answer a question?	Can they develop their ability to ask questions about the world? Such as: What is something? How are things similar and different? How do things change? How do things happen? Which alternative is better? Can they answer questions based on a scenario developed with the teacher? Can they plan how to use resources to answer a question? Can they recognise that there are different ways in which questions can be answered?	Can they consider prior knowledge when answering questions? Can they use a range of question stems? Can they, when appropriate, answer the question? Can they answer questions posed by the teacher? Can they use resources provided to suggest strategies for gathering evidence to answer a question? Can they recognise when secondary sources can be used to answer questions that can't be answered through practical work?	Can they independently consider prior knowledge when answering questions? Can they independently use a range of question stems? Can they, when appropriate, answer the question? Can they answer questions posed by the teacher? Can they decide strategies for gathering evidence to answer a question when provided with a range of resources? Can they recognise when secondary sources can be used to answer questions that can't be answered through practical work?	Can they ask scientific questions stimulated by a scientific experience? Can they decide strategies for gathering evidence to answer a question when provided with a wide range of resources? Can they select a type of enquiry to carry out? Can they recognise how secondary sources can be used to answer questions that can't be answered through practical work? Can they select from a range of practical resources to gather evidence to answer their questions? Can they suggest how to carry out fair tests? Can they recognise variables? Can they recognise some variables to be controlled? Can they decide which observations or measurements need to be made over time? Can they look for patterns?	Can they ask scientific questions stimulated by a scientific experience? Can they ask scientific questions based on developed understanding following an enquiry? Can they independently decide strategies for gathering evidence to answer a question when provided with a wide range of resources? Can they select a type of enquiry to carry out and justify their choice? Can they recognise how secondary sources can be used to answer questions that can't be answered through practical work? Can they select from a range of practical resources to gather evidence to answer their questions? Can they carry out fair tests? Can they recognise and control variables? Can they decide which observations or measurements need

						to be made over time and for how long? Can they look for patterns and relationships using s suitable sample?
	Making observations and taking measurements					
Can they make observations about their environment? Can they take measurements using non-standard units? Can they use their senses to make observations?	Can they make observations about the world to support identification, comparison and noticing change? Can they use appropriate senses? Can they use some simple equipment to aid their senses such as magnifying glasses or digital microscopes? Can they take simple measurements using comparison?	When exploring the world can they make observations to support identification, comparison and noticing change? Can they use appropriate senses? Can they use some simple equipment to aid their senses such as magnifying glasses or digital microscopes? Can they take simple measurements using comparison or non-standard units?	Can they make careful observations? Can they use a range of equipment for measuring length, time, temperature and capacity? Can they use standard units for their measurements?	Can they make systematic and careful observations? Can they use a range of equipment for accurately measuring length, time, temperature and capacity? Can they use standard units for their measurements?	Can they select measuring equipment to give the most precise results? Can they decide when it is appropriate to take repeat readings? Can they decide if they need to increase the sample size? Can they decide if they need to adjust the observation time period and/or frequency?	Can they independently select measuring equipment to give the most precise results? Can they independently make decisions during an enquiry in order to get accurate data? Can they decide when to check using further secondary sources?
	Engaging in practical enquiry to answer questions					
Can they talk about similarities and differences? Can they use resources to explore similarities and differences? Can they use resources to sort and group items according to given criteria?	Can they use practical resources provided to gather evidence to answer questions generated by the teacher? Can they carry out simple tests to classify? Can they carry out simple comparative tests? Can they carry out simple pattern seeking enquires? Can they make observations over time? Can they use their observations and	Can they use practical resources provided to gather evidence to answer questions generated by the teacher or themselves? Can they carry out simple tests to classify? Can they carry out simple comparative tests? Can they carry out simple pattern seeking enquires? Can they make observations over time?	Can they use a range of practical resources provided to gather evidence to answer questions generated by the teacher? Can they follow their plan to carry out a simple practical enquiry? Can they make observations and carry out tests to classify? Can they carry out comparative and simple fair tests? Can they carry out observations over time?	Can they use a range of practical resources provided to gather evidence to answer questions generated by the teacher or themselves? Can they follow their plan to carry out a simple practical enquiry? Can they make observations and carry out tests to classify? Can they carry out comparative and simple fair tests?	Can they select from a range of practical resources to gather evidence to answer their questions? Can they carry out fair tests, recognising and controlling variables? Can they decide what observations and measurements to make over time? Can they look for patterns and relationships?	Can they select from a range of practical resources to gather evidence to answer their questions? Can they carry out fair tests, recognising and controlling variables? Can they decide what observations and measurements to make over time and for how long? Can they look for patterns and relationships using a suitable sample?

	testing to compare objects, materials and living things? Can they sort and group these things identifying their own criteria for sorting? Can they use simple secondary sources (such as identification sheets) to name living things?	Can they use their observations and testing to compare objects, materials and living things? Can they sort and group these things identifying their own criteria for sorting? Can they use simple secondary sources (such as identification sheets) to name living things? Can they describe the characteristics they used to identify a living thing?	(Note: A comparative test is performed by changed a qualitative variable which leads to a ranked outcome. A fair test is performed by changing a quantitative variable which leads to establishing a causative relationship)	Can they carry out observations over time? Can they carry out pattern seeking? (Note: A comparative test is performed by changed a qualitative variable which leads to a ranked outcome. A fair test is performed by changing a quantitative variable which leads to establishing a causative relationship)		
Recording and presenting evidence						
Can they record their observations using drawings? Can they talk about their observations?	Can they record their observations using photographs, videos or drawings? Can they record their measurements using prepared tables, pictograms, tally charts and block graphs? Can they classify using simple prepared tables and sorting rings?	Can they record their observations using photographs, videos or drawings, labelled diagrams or in writing? Can they record their measurements using prepared tables, pictograms, tally charts and block graphs? Can they classify using simple prepared tables and sorting rings?	Can they record their observations using photographs, videos, pictures, labelled diagrams or writing? Can they record their measurements using tables, tally charts and bar charts using templates when required? Can they record classifications using tables, Venn diagrams? Can they present data in different ways with support? Can they sometimes decide how to record and present evidence?	Can they record their observations using photographs, videos, pictures, labelled diagrams or writing? Can they record their measurements using tables, tally charts and bar charts? Can they record classifications using tables, Venn diagrams and Carroll diagrams? Can they present data in different ways? Can they sometimes decide how to record and present evidence?	Can they start to decide how to record and present evidence? Can they record observations using annotated photographs, videos, labelled diagrams, observational drawings, labelled scientific diagrams or writing? Can they record measurements using tables, tally charts, bar charts, line graphs and scatter graphs? Can they record classifications using tables, Venn diagrams, Carroll diagrams and classification keys? Can they, with limited support, present the same data in different ways in order to help	Can they independently decide how to record and present evidence? Can they record observations using annotated photographs, videos, labelled diagrams, observational drawings, labelled scientific diagrams or writing? Can they record measurements using tables, tally charts, bar charts, line graphs and scatter graphs? Can they record classifications using tables, Venn diagrams, Carroll diagrams and classification keys? Can they present the same data in different ways in order to help

					with answering a question?	with answering a question?
Answering questions and concluding						
Can they use experiences of the world around them to suggest appropriate answers to questions? Can they make links between experiences and prior knowledge?	Can they use experiences of the world around them to suggest appropriate answers to questions? Can they relate these to their evidence from observations, measurements or secondary sources, with support? Can they recognise 'biggest and smallest', 'best and worst' etc from their data?	Can they use experiences of the world around them to suggest appropriate answers to questions? Can they relate these to their evidence from observations, measurements or secondary sources? Can they recognise 'biggest and smallest', 'best and worst' etc from their data?	Can they answer their own questions based on observations they have made, measurements they have taken or information from secondary sources? Can they give answers that are consistent with the evidence? Can they interpret their data to generate simple comparative statements based on their evidence with support? Can they start to identify naturally occurring patterns and causal relationships? Can they draw conclusions based on their evidence and current subject knowledge?	Can they answer their own and others' questions based on observations they have made, measurements they have taken or information from secondary sources? Can they give answers that are consistent with the evidence? Can they interpret their data to generate simple comparative statements based on their evidence? Can they identify naturally occurring patterns and causal relationships? Can they draw conclusions based on their evidence and current subject knowledge?	Can they answer their own questions based on observations they have made, measurements they have taken or information from secondary sources and discuss whether other evidence (e.g. from other groups, their scientific understanding or secondary sources) supports or refutes their answer? Can they write conclusions in which they identify causal relationships and patterns in the natural world from their evidence? Can they identify results that do not fit the overall pattern? Can they begin to explain their findings using subject knowledge?	Can they answer their own or others' questions based on observations they have made, measurements they have taken or information from secondary sources and discuss whether other evidence (e.g. from other groups, their scientific understanding or secondary sources) supports or refutes their answer? Can they write conclusions in which they identify causal relationships and patterns in the natural world from their evidence? Can they identify results that do not fit the overall pattern? Can they explain their findings using subject knowledge?
Evaluating and raising further questions and predictions						
N/A	N/A	N/A	Can they identify ways in which they adapted their method as they progressed? Can they begin to use their evidence for different items tested using the same method? Can they start to ask further questions which	Can they identify ways in which they adapted their method as they progressed or how they would do it differently if they repeated the enquiry? Can they use their evidence for different items tested using the same method?	Can they evaluate the choice of method used, the control of variables and the precision and accuracy of measurements? Can they begin to identify any limitations that reduce the trust	Can they evaluate the choice of method used, the control of variables, the precision and accuracy of measurements and the credibility of secondary sources used? Can they identify any limitations that reduce

			can be answered by extending the same enquiry?	Can they ask further questions which can be answered by extending the same enquiry?	they have in their data? Can they use scientific knowledge gained from enquiries to make predictions they can investigate using comparative and fair tests?	the trust they have in their data? Can they use scientific knowledge gained from enquiries to make predictions they can investigate using comparative and fair tests?
Communicating their findings						
	N/A	N/A	Can they begin to communicate their findings to an audience both orally and in writing, using appropriate scientific language?	Can they communicate their findings to an audience both orally and in writing, using appropriate scientific language?	Can they communicate their findings to an audience both orally and in writing, using relevant scientific language and illustrations?	Can they communicate their findings (including conclusions, causal relationships with explanations and degree of trust in results) to an audience both orally and in writing, using relevant scientific language and illustrations?