

## Working Scientifically Progression Document – Hillsborough Primary School

	Methods to answer scientific questions	Apparatus and techniques, including measurement	Analysis, presentation and evaluation of scientific data to draw conclusions	Development of scientific knowledge over time and its implications
FS	Show curiosity about objects, events and people. Ask simple questions with vocabulary prompts. Develop ideas of cause and effect.	Closely observe what animals, people and vehicles do. Make simple observations. Use senses to explore the world around them.	Identify similarities and differences Create simple representations of findings Make links and notice patterns in their experiences.	Explain why some things occur and discuss the changes they see. Carry out a simple test with support
Year 1	Explore the world around them. Ask simple questions in group discussions Classify and group using simple features to compare.	Observe closely using simple equipment Use simple measurements to gather data.	Draw and label pictures Begin to notice patterns with guidance Explain what they have found out. Record simple data using pictograms and drawings	Begin to use simple, scientific language to record and communicate their findings. Carry out a simple test with support.
Year 2	Ask simple questions and recognise they can be answered with evidence. Use secondary sources to help answer questions. Classify and group, being able to explain why they selected the criteria.	Observe closely using simple equipment and note changes over time, with help. Use simple measurements to gather data	Use their observations and ideas to suggest answers to questions. Begin to notice patterns and relationships with guidance. Use simple features to compare and contrast Record simple data using pictograms, tally charts and bar charts	Carry out a simple test in a small group Decide whether the plan was successful and make suggestions for a change that could impact the results.
Year 3	Explore the world around them through different scientific enquiries. Ask their own relevant questions as part of a group discussion. Recognise when secondary sources can answer questions that cannot be answered through practical investigations. Recognise when a fair test is necessary and set it up.	Make careful observations Take accurate measurements using simple equipment including data loggers. Make predictions	Begin to look for changes, patterns, similarities and differences in their data to answer their question. Discuss criteria for grouping, sorting and classifying. Use bar charts and tables to record measurements. Begin to use labelled diagrams, drawings, standard units and notes to analyse data.	Use relevant, simple, scientific language to communicate their findings to different audiences, including oral and written presentations. Draw a conclusion and present results.
Year 4	Explore the world around them through performing a range of scientific enquiries to answer questions. Ask relevant questions and begin to make their own decisions about which	Make systematic and careful observations Help make decisions about what observations to make.	Identify changes, patterns, similarities and differences in their data to answer questions and draw a conclusion. Use simple keys to group, sort and classify.	Use relevant, simple, scientific language to communicate their findings to different audiences, including oral and written presentations.

	<p>type of scientific enquiry or secondary source would help them to answer their questions.</p> <p>Understand the difference between a fair test and a comparative test.</p>	<p>Take accurate measurements using standard units and using a range of equipment including thermometers and data loggers.</p> <p>Make predictions based on evidence</p>	<p>Use labelled diagrams, drawings, standard units and notes to make informed decisions about how to analyse data.</p>	<p>Draw conclusions and present results, suggesting ways of improving what has been done.</p> <p>Make further predictions for new values within or beyond the data that has been collected.</p>
Year 5	<p>Use their scientific knowledge to explore ideas and raise a range of questions.</p> <p>With support, plan different types of enquiries to answer scientific questions. Recognise when to use a comparative or fair test.</p> <p>Understand variables and how these can be controlled.</p> <p>Identify and use secondary sources to research ideas.</p>	<p>Begin to make decisions about what observations to make, what measurements to use and how long to use them for.</p> <p>Take measurements with increasing accuracy.</p>	<p>Use and develop keys and other information records to identify, classify and describe living things and materials.</p> <p>Identify causal relationships in the data.</p> <p>Use scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs to record increasing complex data.</p>	<p>Discuss how scientific ideas have developed over time.</p> <p>Begin to use results to make further predictions, observation, comparative and fair tests when needed.</p> <p>Use relevant scientific language and illustrations to discuss and communicate their scientific ideas.</p>
Year 6	<p>Use their scientific knowledge to explore ideas and raise a range of questions.</p> <p>Plan different types of enquiries to answer scientific questions. Recognise when to use a comparative or fair test.</p> <p>Explain which variables need to be controlled and why.</p> <p>Begin to separate opinion from fact in secondary sources.</p>	<p>Make decisions about what observations to make, what measurements to use and how long to use them for.</p> <p>Take measurements with precision, taking repeat measurements where appropriate.</p>	<p>Identify patterns that might be found in the natural environment.</p> <p>Identify causal relationships in the data and use data to refute or support their idea.</p> <p>Use scientific diagrams and labels, classification keys, tables, scatter graphs and line graphs to record increasing complex data.</p>	<p>Discuss how scientific ideas have developed over time, naming some scientists that have made an impact on our lives today.</p> <p>Identify when to use results to make further predictions, observation, comparative and fair tests when needed.</p> <p>Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas.</p>