



Headlands Primary School: Progression of skills in Science

Phase	Scientific Enquiry
EYFS	<ul style="list-style-type: none">• Asking questions. Children should ask simple questions• Scientific enquiries. They should be able to do the following types of enquiry:<ul style="list-style-type: none">Observations. They should observe closely, using simple equipment.Simple testsIdentifying and classifyingSecondary sources. They should use simple secondary sources to find answers.
Key Stage One	<ul style="list-style-type: none">• Asking questions. Children should ask simple questions and recognise that they can be answered in different ways.• Scientific enquiries. They should be able to do the following types of enquiry:<ul style="list-style-type: none">Observations. They should observe closely, using simple equipment.Simple testsIdentifying and classifyingSecondary sources. They should use simple secondary sources to find answers.• Recording. They should gather and record data to suggest answers to their questions. With help, they should record in a range of ways and begin to use simple scientific language.• Analysing observations. They should use their observations and ideas to suggest answers to questions. They should notice patterns and relationships in their observations. They should talk about what they have found out and how they found out.
Lower Key Stage Two	<ul style="list-style-type: none">• Raising Questions. They should be given a range of scientific experiences to enable them to raise their own questions about the world around them.• Choosing a suitable scientific enquiry. They should start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions• Observations. They should help to make decisions about what observations to make, how long to make them for. They should make systematic and careful observations.• Fair testing. Recognise when a simple fair test is necessary.• Sorting and classifying. Talk about the criteria for grouping, sorting and classifying and use simple keys.• Secondary sources. They should recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations.• Choosing equipment. They should help to make decisions about the type of simple equipment that might be used. They should learn how to use new equipment, such as a data loggers and thermometers, appropriately.• Collecting data. They should collect data from their own observations and measurements.• Measuring. They should use standard units.

	<ul style="list-style-type: none"> • Recording. They should make decisions as to how to record. They should record in notes, drawings, labelled diagrams, bar charts and simple tables. Pupils should use relevant scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences. • Analysing data. They should make decisions as to how to analyse the data. They should begin to look for patterns and decide what data to collect to identify them. With help, pupils should look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. With support, they should identify new questions arising from the data, making predictions for new values within or beyond the data, they have collected. • Making improvements. They should find ways of improving what they have already done.
<p>Upper Key Stage Two</p>	<ul style="list-style-type: none"> • Planning enquires. Children should plan different types of enquiry to answer questions. • Identifying variables. Children should recognize and control variables where necessary. • Secondary sources. Children should recognize when secondary sources will be most useful to research their ideas and begin to separate opinion from fact. • Using equipment. They should choose the most appropriate equipment. Children should take measurements, using a range of scientific equipment with increasing accuracy and precision. • Collecting data. They should make their own decisions about what observations to make, what measurements to use, and how long make them for. • Recording. They should choose how to record data. Children should record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs. They should report and present findings from enquires, including conclusions, causal relationships and explanations of results (in oral and written forms). • Analysing data. Children should use test results to make predictions to set up further comparative and fair test. They should use simple models to describe scientific ideas. They should identify scientific evidence that has been used to support or refute ideas or arguments. • Making Improvements. They should use their results to identify when further tests and observations might be needed