



# Preston Candover Science Curriculum

## Progression in Disciplinary Knowledge

This document shows the working scientifically statements from the National Curriculum and how they have broken down into disciplinary skills across the school.

	Knowledge of Scientific methods	Knowledge of apparatus and techniques	Knowledge of data analysis and presentation	Knowledge of how science uses evidence to develop explanations
<b>Year R</b>	<ul style="list-style-type: none"> <li>- What a scientific question is</li> <li>- How scientific questions can be answered</li> <li>- Variables in practical work (change and measure)</li> <li>- Comparing objects</li> <li>- Identify patterns</li> </ul>	<ul style="list-style-type: none"> <li>- Use of simple equipment</li> <li>- Observe changes over time</li> <li>- Measuring</li> <li>- Identifying objects</li> <li>- Sorting objects</li> </ul>	<ul style="list-style-type: none"> <li>- Recording of data</li> <li>- What data is</li> <li>- What a table is</li> <li>- How to place data into a table</li> <li>- That data in a table can be clearer when displayed as a graph</li> </ul>	<ul style="list-style-type: none"> <li>- What a scientific question is</li> <li>- How scientific question can be answered</li> <li>- Using simple secondary sources</li> <li>- What scientific evidence is</li> <li>- What scientific evidence is not</li> <li>- What conclusions are used for</li> <li>- What a scientific conclusion should include</li> </ul>
<b>Year 1/2</b>	<ul style="list-style-type: none"> <li>- What a scientific question is</li> <li>- How scientific questions can be answered</li> <li>- Variables in practical work (change and measure)</li> <li>- Comparing objects</li> <li>- Identify patterns</li> </ul>	<ul style="list-style-type: none"> <li>- Use of simple equipment</li> <li>- Observe changes over time</li> <li>- Measuring</li> <li>- Identifying objects</li> <li>- Sorting objects</li> </ul>	<ul style="list-style-type: none"> <li>- Recording of data</li> <li>- What data is</li> <li>- What a table is</li> <li>- How to place data into a table</li> <li>- That data in a table can be clearer when displayed as a graph</li> </ul>	<ul style="list-style-type: none"> <li>- What a scientific question is</li> <li>- How scientific question can be answered</li> <li>- Using simple secondary sources</li> <li>- What scientific evidence is</li> <li>- What scientific evidence is not</li> <li>- What conclusions are used for</li> <li>- What a scientific conclusion should include</li> </ul>

<b>Year 3/4</b>	<ul style="list-style-type: none"> <li>- Scientific hypotheses</li> <li>- Scientific models</li> <li>- Scientific theories</li> <li>- Variable in science- change and measure</li> <li>- Control Variables- (keep the same)</li> <li>- Observing</li> <li>- Classifying</li> <li>- Identify patterns and relationships</li> <li>- Scientific drawing including labels</li> <li>- Identifying similarities and differences</li> </ul>	<ul style="list-style-type: none"> <li>- Taking accurate measurements</li> <li>- Awareness of scale and a range of units</li> <li>- Correct use of apparatus including thermometer</li> <li>- Safety in science</li> <li>- Scientific drawing including labels</li> </ul>	<ul style="list-style-type: none"> <li>- Table design and construction</li> <li>- Creating keys</li> <li>- Creating bar charts from data</li> <li>- Oral presentations on findings</li> <li>- Visual displays of findings</li> </ul>	<ul style="list-style-type: none"> <li>- Scientific hypotheses</li> <li>- Scientific models</li> <li>- Scientific theories</li> <li>- Use of secondary sources</li> <li>- Written explanations</li> <li>- Writing a scientific conclusion</li> <li>- Improvements to procedures</li> <li>- Posing further questions based on data</li> <li>- Use substantive knowledge alongside evidence from investigations</li> </ul>
<b>Year 5/6</b>	<ul style="list-style-type: none"> <li>- Scientific hypotheses</li> <li>- Developing Scientific models</li> <li>- Distinguishing Pseudoscience from science</li> <li>- Variable in science- change (independent) and measure (dependent)</li> <li>- Control Variables- (keep the same)</li> <li>- Classifying</li> <li>- Identify patterns in nature</li> <li>- Scientific drawing including labels</li> <li>- The double- blind methodology</li> <li>- The placebo effect</li> </ul>	<ul style="list-style-type: none"> <li>- Making accurate measurements</li> <li>- Taking accurate measurements</li> <li>- Awareness of scale and a range of units</li> <li>- Correct use of a range of apparatus</li> <li>- Safety in science</li> <li>- Repeatability</li> <li>- Awareness of sources of error in investigations</li> <li>- Scientific drawing including labels</li> </ul>	<ul style="list-style-type: none"> <li>- Complex table design and construction</li> <li>- Create classification keys</li> <li>- Creating bar charts from data</li> <li>- Creating scatter graphs from data</li> <li>- Ascertain the level of uncertainty in collected results</li> <li>- Validity of results</li> <li>- Oral presentations on findings</li> <li>- Illustrated presentations of research, techniques/methods and finding</li> </ul>	<ul style="list-style-type: none"> <li>- Scientific hypotheses</li> <li>- Developing Scientific models</li> <li>- Scientific theories</li> <li>- Use of high quality and reliable secondary sources</li> <li>- Interpreting relationships from scatter graphs</li> <li>- Posing further questions based on data</li> <li>- Improvements to procedures</li> <li>- Reproducibility</li> <li>- Constructing a scientific conclusion linking collected evidence to substantive knowledge</li> <li>- Evolution of scientific ideas and models</li> <li>- The double-blind methodology</li> </ul>

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