

Disciplinary Knowledge 24/25

	Knowledge of Scientific methods	Knowledge of apparatus and techniques	Knowledge of data analysis and presentation	Knowledge of how science uses evidence to develop explanations
	The different methods that scientists use to generate knowledge	How to carry out specific procedures and protocols safely and competently.	Understanding and presenting scientific data in a variety of ways to explore relationships and communicate results to others. Pupils learn about different types of tables and graphs appropriate for their age.	How evidence is used, alongside substantive knowledge, to draw conclusions.
Kites (YR/Y1)	Know what a scientific question is. Know how a scientific question can be answered. Know how to use variables in practical work (change & measure). Know how to compare objects. Know how to identify patterns.	Know how to use simple equipment. Know how to observe changes over time. Know how to measure. Know how to identify objects. Know how to sort objects.	Know how to record data. Know what data is. Know what a table is. Know how to place data into a table. Know that data in a table can be clearer when displayed as a graph.	Know simple secondary sources. Know what scientific evidence is. Know what conclusions are used for. Know what a scientific conclusion should include.
Kestrels	Know what a scientific question is. Know how a scientific question can be answered. Know variables in practical work (change & measure). Know how to compare objects. Know how to Identify patterns.	Know how to use simple equipment. Know how to observe changes over time. Know how to measure. Know how to identify objects. Know how to sort objects.	Know how to Record data. Know what data is. Know what a table is. Know how to place data into a table. Know that data in a table can be clearer when displayed as a graph.	Know how to use simple secondary sources. Know what scientific evidence is. Know what conclusions are used for. Know what a scientific conclusion should include.

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Hawks	<p>Know how to form scientific hypotheses.</p> <p>Know what scientific models are.</p> <p>Know what scientific theories are.</p> <p>Know that variables in science-change and measure.</p> <p>Know that you can have control variables- (keep the same).</p> <p>Know how to record observations.</p> <p>Know how to classify.</p> <p>Know how to identify patterns and relationships.</p> <p>Know how to conduct scientific drawing including labels.</p> <p>Know how to identify similarities and differences.</p>	<p>Know how to take accurate measurements.</p> <p>Know of scale and a range of units.</p> <p>Know how to correctly use apparatus including thermometers.</p> <p>Know safety practices in science.</p> <p>Know how to conduct scientific drawing including labels.</p>	<p>Know table design and construction.</p> <p>Know how to create keys.</p> <p>Know how to create bar charts from data.</p> <p>Know how to conduct oral presentations on findings.</p> <p>Know how to conduct visual displays of findings.</p>	<p>Know how to use secondary sources.</p> <p>Know how to construct written explanations.</p> <p>Know how to write a scientific conclusion linking to theory.</p> <p>Know how to make improvements to procedures.</p> <p>Know how to pose further questions based on data.</p> <p>Know how to use substantive knowledge alongside evidence from investigations.</p>
Owls Y4	<p>Know how to construct scientific hypotheses.</p> <p>Know what scientific models are.</p> <p>Know what scientific theories are.</p> <p>Know what variables in science-change and measure are.</p> <p>Know what control variables are - (keep the same).</p> <p>Know how to observe.</p> <p>Know how to classify.</p> <p>Know how to identify patterns and relationships.</p> <p>Know how to construct scientific</p>	<p>Know how to take accurate measurements.</p> <p>Know scale and a range of units.</p> <p>Know how to correctly use apparatus including thermometers.</p> <p>Know safety practices in science.</p> <p>Know how to conduct scientific drawing including labels.</p>	<p>Know table design and construction.</p> <p>Know how to create keys.</p> <p>Know how to create bar charts from data.</p> <p>Know how to conduct oral presentations on findings.</p> <p>Know how to conduct visual displays of findings.</p>	<p>Know the use of secondary sources in written explanations.</p> <p>Know how to write a scientific conclusion linking to theory.</p> <p>Know how to make improvements to procedures.</p> <p>Know how to pose further questions based on data.</p> <p>Know how to use substantive knowledge alongside evidence from investigations.</p>

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	drawing including labels. Know how to identify similarities and differences.			
Owls/Eagles Y5	<p>Know how to create scientific hypotheses.</p> <p>Know how to develop scientific models.</p> <p>Know how to distinguish pseudoscience from science.</p> <p>Know that variables in science-change (independent) and measure (dependent).</p> <p>Know control variables- (keep the same).</p> <p>Know how to classify.</p> <p>Know how to identify patterns in nature.</p> <p>Know how to conduct scientific drawing including labels.</p> <p>Know the double-blind methodology.</p> <p>Know the placebo effect.</p>	<p>Know how to make accurate observations.</p> <p>Know how to take accurate measurements.</p> <p>know scale and a range of units.</p> <p>Know how to correctly use a range of apparatus.</p> <p>Know safety practices in science.</p> <p>Know repeatability.</p> <p>Know sources of error in investigations.</p> <p>Know how to conduct scientific drawing including labels.</p>	<p>Know how to conduct complex table design and construction.</p> <p>Know how to create classification keys.</p> <p>Know how to create bar charts from data.</p> <p>Know how to create scatter graphs from data.</p> <p>Know how to ascertain the level of uncertainty in collected results.</p> <p>Know how to assess the validity of results.</p> <p>Know how to conduct oral presentations on findings.</p> <p>Know how to conduct illustrated presentations of research, techniques/methods and findings.</p>	<p>Know what scientific theories are.</p> <p>Know how to use high quality and reliable secondary sources.</p> <p>Know how to interpret relationships from scatter graphs.</p> <p>Know how to pose further questions based on data.</p> <p>Know how to make improvements to procedures.</p> <p>Know how to construct a scientific conclusion linking collected evidence to substantive knowledge.</p> <p>Know the evolution of scientific ideas and models.</p>
Eagles	<p>Develop Scientific models.</p> <p>Distinguish Pseudoscience from science.</p> <p>Variables in science-change (independent) and measure (dependent).</p> <p>Control variables- (keep the same).</p>	<p>Making accurate observations.</p> <p>Taking accurate measurements.</p> <p>Awareness of scale and a range of units.</p> <p>Correct use of a range of apparatus.</p> <p>Safety in science.</p> <p>Repeatability.</p> <p>Awareness of sources of error in</p>	<p>Complex table design and construction.</p> <p>Create classification keys.</p> <p>Creating bar charts from data.</p> <p>Creating scatter graphs from data.</p> <p>Ascertain the level of uncertainty in collected results.</p> <p>Validity of results.</p>	<p>Scientific theories,</p> <p>Use of high quality and reliable secondary sources.</p> <p>Interpret relationships from scatter graphs.</p> <p>Pose further questions based on data.</p> <p>Improvements to procedures.</p>



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	<p>Classifying. Identifying patterns in nature Scientific drawing including labels. The double-blind methodology. The placebo effect.</p>	<p>investigations. Scientific drawing including labels.</p>	<p>Oral presentations on findings. Illustrated presentations of research, techniques/methods and findings.</p>	<p>Reproducibility. Construct a scientific conclusion linking collected evidence to substantive knowledge. Evolution of scientific ideas and models.</p>
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