

**Year 9 THRESHOLD CRITERIA**

**SCIENCE**

	<b>AO1</b>	<b>AO2</b>	<b>AO3</b>
	Knowledge: Use key vocabulary to communicate understanding of facts, laws, phenomena and models of science. <b>(30%)</b>	Application: Apply understanding of scientific concepts to qualitative and quantitative data to hypothesise, analyse and conclude. <b>(50%)</b>	Validation: Using statistical or descriptive observations, design and evaluate scientific procedure and evidence. <b>(20%)</b>
<b>EXCELLENT</b>	Analyse scientific phenomena, patterns, laws and models using key vocabulary. Explain how scientific theories develop over time and are tested. Select the appropriate scientific unit in a given context. Have a knowledge of every day and technological applications of science with their personal, social, economic and environmental applications and evaluate them	Analyse and modify data from a range of sources. Synthesise a range of data to develop justified hypotheses and conclusions. Using scientific theory, explain and justify both familiar and unfamiliar phenomena and observations. Analyse and select appropriate sampling and investigative techniques to generate valid data and solve problems. Present data in a range of forms including; verbal, diagrammatic, graphical, numerical and symbolic. Evaluate practical, theoretical and ethical constraints within science.	Improve a structured and justified method which will meet the needs of a testable hypothesis to produce valid data. Detect and evaluate the validity of experimental method and conclusions. Suggest improvements. Apply a statistical method to detect and evaluate the reliability of data and conclusions.
<b>PROFICIENT</b>	Explain scientific phenomena, patterns, laws and models using key vocabulary. Explain how scientific theories develop over time and are tested. Select the appropriate scientific unit in a given context. Explain every day and technological applications of science with their personal, social, economic and environmental applications.	Extract and modify data from a range of sources. Process a range of data to develop justified hypotheses and conclusions. Using scientific theory, explain and justify both familiar and unfamiliar phenomena and observations. Analyse and select appropriate sampling and investigative techniques to generate valid data and solve problems. Present data in a range of forms including; verbal, diagrammatic, graphical, numerical and symbolic. Justify practical, theoretical and ethical constraints within science.	Identify a structured and justified method which will meet the needs of a testable hypothesis to produce valid data. Detect and evaluate the validity of experimental method and conclusions. By using statistical method, detect and evaluate the reliability of data and conclusions.

<p><b>DEVELOPING</b></p>	<p>Summarise scientific phenomena, patterns, laws and models attempting to use key vocabulary. Describe how scientific theories develop over time and are tested. List scientific units and their origin. Describe some every day and limited technological applications of science with their personal, social, economic and environmental applications.</p>	<p>Extract and modify some data from a range of sources. Process a range of data to develop reasoned hypotheses and conclusions. Using scientific theory, explain both familiar and unfamiliar phenomena and observations. Analyse and select appropriate sampling and investigative techniques to generate some valid data and solve problems. Present data in a range of forms including; verbal, diagrammatic, graphical, numerical and symbolic. Explain some practical, theoretical and ethical constraints within science.</p>	<p>Develop a structured method which will meet the needs of a testable hypothesis to produce valid data. Detect and evaluate the validity of experimental method and conclusions. By using statistical method, detect and evaluate the reliability of some data and conclusions.</p>
<p><b>ACQUIRING</b></p>	<p>Describe scientific phenomena, patterns, laws and models attempting to use some key vocabulary. Recognise how scientific theories develop over time. Able to list most scientific units and their origin. Describe every day and technological applications of science with their personal, social, economic and environmental applications.</p>	<p>Extract data from a range of sources. Process a range of data to develop simple hypotheses and conclusions. Using scientific theory, explain familiar and phenomena and observations. Select appropriate sampling and investigative techniques to generate data and solve problems. Present data in a range of simple forms including; diagrammatic, graphical and numerical. Describe practical, theoretical and ethical constraints within science.</p>	<p>Develop a simple method which will meet the needs of a testable hypothesis to produce data. Suggest reasons for invalidity of methods and conclusions. By using statistical method, describe reliability of some data and conclusions.</p>