

## KS3 CHEMISTRY CURRICULUM GRADE DESCRIPTORS

	Chemistry Content	Investigative Content
CG 7	<p>Students can consistently remember, recall and have an exceptional understanding of all key concepts and are able to:</p> <ul style="list-style-type: none"> <li>to use their deep understanding to <b>apply</b> their knowledge <b>comprehensively</b> to a variety of problems including unfamiliar ones.</li> <li>form logical arguments and clear incisive precision.</li> <li><b>describe and explain</b> their ideas in a logical and organised way;</li> <li><b>accurately</b> use appropriate key vocabulary.</li> <li><b>evaluate</b> social, economic and ethical issues critically and articulate their arguments coherently</li> <li><b>use information accurately</b> and show they are able to analyse information to draw conclusions.</li> <li><b>amend</b> scientific procedures in order to improve experimental results and <b>justify</b> why they have suggested these changes.</li> <li><b>describe</b> scientific techniques and procedures in detail and <b>justify</b> why these may be more suitable than others.</li> </ul>	<p>Students are consistently able to:</p> <ul style="list-style-type: none"> <li>use scientific knowledge to formulate and justify a hypothesis</li> <li>plan valid scientific investigations,</li> <li>collect repeatable and reliable data and record this in their own table</li> <li>plot line graphs and draw a line of best fit</li> <li>identify and analyse patterns in data and evaluate their original questions/ hypotheses</li> <li>explain why they have obtained anomalous results, how to manage them appropriately and explain how this could reduce errors</li> <li>evaluate a method and suggest improvements.</li> <li>recognise the importance of peer review of results and communicating these to a range of audiences</li> <li>identify uncertainties and explain how to reduce error in scientific procedures</li> <li>interpret quantitative experimental data from graphs, charts and other practical data</li> </ul>
CG 5 - CG 6	<p>Students can remember, recall and have an exceptional understanding of virtually all key concepts</p> <ul style="list-style-type: none"> <li>to use their deep understanding to <b>apply</b> their knowledge to a variety of problems including unfamiliar ones.</li> <li>form logical arguments</li> <li><b>describe and explain</b> their ideas in a logical and organised way;</li> <li><b>accurately</b> use appropriate key vocabulary.</li> <li><b>evaluate</b> social, economic and ethical issues critically</li> <li><b>use information accurately</b> and show they are able to draw conclusions.</li> <li><b>amend</b> scientific procedures in order to improve experimental results and suggest why they have made these changes.</li> <li><b>describe</b> scientific techniques and procedures in detail and <b>suggest</b> why these may be more suitable than others.</li> </ul>	<p>Students are usually able to:</p> <ul style="list-style-type: none"> <li>use scientific knowledge to formulate and justify a hypothesis</li> <li>plan valid scientific investigations,</li> <li>collect repeatable and reliable data and record this in their own table</li> <li>plot line graphs and draw a line of best fit</li> <li>identify and analyse patterns in data and evaluate their original questions/ hypotheses</li> <li>explain why they have obtained anomalous results and how to manage them appropriately. They should be able to explain how this could reduce errors</li> <li>evaluate a method and suggest improvements.</li> <li>recognise the importance of peer review of results and communicating these to a range of audiences</li> <li>identify uncertainties and explain how to reduce error in scientific procedures</li> <li>interpret quantitative experimental data from graphs, charts and other practical data</li> </ul>

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<b>CG4 - CG 3</b>	Students demonstrate good understanding of <b>most</b> scientific ideas and techniques and are able to: <ul style="list-style-type: none"> <li>• <b>recall</b> the majority of concepts in good detail.</li> <li>• <b>describe</b> scientific techniques and procedures in detail</li> <li>• <b>apply</b> their knowledge to a variety of problems including those that are unfamiliar with logic and clarity.</li> <li>• to <b>describe and explain</b> their ideas with <b>some</b> logical thinking using key vocabulary.</li> <li>• <b>evaluate</b> social, economic and ethical issues and communicate their ideas coherently</li> <li>• use <b>information accurately</b> to analyse data in order to draw simple conclusions</li> <li>• <b>amend</b> scientific procedures in order to improve experimental results and can give a reason for their suggested changes</li> </ul>	Students are consistently able to: <ul style="list-style-type: none"> <li>• use scientific knowledge to formulate a hypothesis.</li> <li>• plan valid scientific investigations,</li> <li>• collect repeatable and reliable data and record this in their own table</li> <li>• plot line graphs and draw a line of best fit</li> <li>• identify and analyse patterns in data and evaluate their original questions/ hypotheses</li> <li>• explain why they have obtained anomalous results and how to manage them appropriately. They should be able to explain how this could reduce errors</li> <li>• Evaluate a method and suggest improvements.</li> <li>• Recognise the importance of peer review of results and communicating these to a range of audiences</li> </ul>
<b>CG 3 - CG 2</b>	Students demonstrate adequate understanding of some scientific ideas and techniques and are able to: <ul style="list-style-type: none"> <li>• recall the main concepts</li> <li>• able to describe some scientific techniques and procedures</li> <li>• apply their knowledge to unfamiliar situations. They do this with clear arguments although these may not always be logical</li> <li>• describe and explain their ideas using key vocabulary</li> <li>• start evaluating social, economic and ethical issues</li> <li>• use information to analyse data and draw simple conclusions</li> <li>• suggest amendments to scientific procedures in order to improve results</li> </ul>	Students can ask scientific questions, plan and carry out investigations safely and understand how to collect valid results <ul style="list-style-type: none"> <li>• They can spot patterns in data and explain what their results show about their investigation</li> <li>• They can identify anomalous results and explain how they have identified these</li> </ul>
<b>CG 1</b>	Students understand some of the key concepts and are able to: <ul style="list-style-type: none"> <li>• <b>recall and describe</b> some of the scientific ideas they have learnt using key vocabulary</li> <li>• apply their knowledge to unfamiliar situations although this may not always be done accurately</li> <li>• make attempts to explain scientific ideas</li> <li>• make simple predictions about what they have observed in scientific investigations but struggle to explain their ideas coherently</li> <li>• identify links between topics</li> </ul>	Students can ask scientific questions with guidance and carry out a scientific investigation safely <ul style="list-style-type: none"> <li>• They can plan a simple fair test but need help in identifying key variables</li> <li>• Follow a sequential method and collect and record data.</li> <li>• Attempt to draw a line of best fit on line graphs although these may not be accurate</li> <li>• They are able to describe what their results show about their investigation</li> </ul>