



	Sequence				
<b>TOPIC (S)</b> <b>Science Investigation Skills</b>	1. Planning a scientific investigation 2. Data collection, processing and analysis 3. Drawing conclusion and evaluation		4. Enzymes in action 5. Diffusion of molecules 6. Plants and their environment		7. Energy Content of fuels 8. Electrical circuits
<b>Knowledge &amp; Skills development</b>	<ul style="list-style-type: none"> <li>Developing a hypothesis for an investigation</li> <li>Selection of appropriate equipment, techniques and standard procedures</li> <li>Writing a risk assessment</li> <li>Identifying variables</li> <li>Writing a clear logical method</li> <li>Collection of quantitative and qualitative data</li> <li>Processing data</li> </ul>		<ul style="list-style-type: none"> <li>Interpretation and analysis of data</li> <li>Writing an evaluations</li> <li>Incorporating these skills into practical work based on:  <i>Enzymes in action</i>  <i>Diffusion of molecules</i>  <i>Plants and their environment</i>  <i>Energy content of fuels</i>  <i>Electrical circuits</i> </li> </ul>		
<b>Assessment / Feedback Opportunities</b>	Targeted questioning	Live marking during lessons	Teacher assessment of practical write ups	Teacher observation during practical tasks	Mock exam
<b>Cultural Capital</b>	<ul style="list-style-type: none"> <li></li> <li></li> </ul>				
<b>SMSC / Promoting British Values</b> (Democracy, Liberty, Rule of Law, Tolerance & Respect)	<ul style="list-style-type: none"> <li>Listening to others during presentations</li> <li>Working in groups during practical work or research tasks</li> <li></li> </ul>				
<b>Reading opportunities</b>	<ul style="list-style-type: none"> <li>Recommended Read: Scientific Writing: Easy When You Know How ( Jennifer Peat, Elizabeth Elliott, et al)</li> <li>Recommended Read: Calculations in AS/A Level Chemistry (Jim Clark)</li> </ul>				
<b>Key Vocabulary</b>	Independent Variable, Dependent Variable, Control Variables, Method, Conclusion, Precaution, Evaluation, Reliable, Precision, Valid, Anomaly, Describe, Explain, Compare, Analyse, Calculate, Suggest, Absolute, Uncertainty, Error				
<b>Digital Literacy</b>	The use of excel to plot graphs and analyse data Office365 applications including SharePoint				
<b>Cross-Curricular Links</b>	Numeracy/Maths – averages (means), reading scales, graph plotting, lines of best fit, using and rearranging equations, using scientific calculators Calculating density, processing results from titrations, using graphs to determine concentration of a solution, collecting and recording data using accepted conventions.				

	Literacy- extended writing of investigations, reading and analysing scientific journals
<b>Careers</b>	Chemist, Pharmacist, Chemical Engineer, Materials Scientist, Lab Technician, Biochemical scientist