


Learning Plan 2		Subject/Pwnc: Science – Double Award Chemistry		Year/Blwyddyn: 10			
<p><b><u>The Four Purposes in Science and Technology:</u></b></p> <p><b>Ambitious, capable learners, who:</b> set themselves high standards; seek and enjoy challenge; are increasingly knowledgeable and skilful; ask questions; enjoy solving problems; can explain ideas and concepts; can use number effectively in different contexts; interpret data and apply mathematical concepts; use digital technologies creatively to communicate, find and analyse information; research and evaluate critically what they find.</p> <p><b>Enterprising, creative contributors, who:</b> take measured risks.</p> <p><b>Ethical, informed citizens, who:</b> find, evaluate and use evidence in forming views; consider the impact of their actions when making choices and acting; are committed to sustainability.</p> <p><b>Healthy, confident individuals, who:</b> are establishing their ethical beliefs; face and overcome challenge.</p>							
<p><b>Knowledge focus/what matters:</b> Being curious and searching for answers is essential to understanding and predicting phenomena. The world around us is full of living things which depend on each other for survival. Forces and energy provide a foundation for understanding our universe.</p>							
Learning objective/key question		What will I know and be able to do? I can...		How will I develop my skills? (Success Criteria)			
Week 1 Water		<ul style="list-style-type: none"><li>Describe the composition of water in natural water supplies.</li><li>Explain the need for a sustainable water supply.</li><li>Evaluate the environmental impacts of sustainable water supplies.</li><li>Describe the treatment of the public water supply.</li><li>Evaluate arguments for and against the use of fluorides in the public water supply.</li></ul>		<p>I can explain science concepts using key terms.</p> <p>I can form persuasive arguments supported by scientific evidence.</p> <p>I can recall scientific ideas and apply them to new ideas.</p> <p>I can link science concepts to their wider world impacts.</p>		Wk 1	Homework:  Set:  Due:

Week 2 Water	<ul style="list-style-type: none"> <li>Describe the process of the desalination of sea water to supply drinking water.</li> <li>Explain the distillation of water and other miscible liquids by distillation.</li> <li>Methods used to determine solubility and produce solubility curves.</li> <li>Interpret solubility graphs.</li> </ul>	<p>I can describe scientific concepts accurately.</p> <p>I can justify the use of scientific processes for a desired outcome.</p> <p>I can accurately plot a graph based on a set of given data with provided scales.</p>	Wk 2	<p>Homework:</p> <p>Set:</p> <p>Due:</p>
Week 3 Water	<ul style="list-style-type: none"> <li>Describe and explain the causes of hardness in water.</li> <li><b>Explain how to distinguish between hard and soft water using soap solution.</b></li> <li>Explain the difference between temporary and permanent hard water.</li> <li>Describe the advantages and disadvantages of hard and soft water.</li> <li>Explain processes used to soften hard water.</li> </ul>	<p>I can describe chemical concepts and explain how they apply to everyday situations.</p> <p>I can use scientific methods to test chemical reactions or properties in practical investigations.</p> <p>I can make comparisons between substances based on chemical properties.</p>	Wk 3	<p>Homework:</p> <p>Set:</p> <p>Due:</p>
Week 4 Everchanging Earth	<ul style="list-style-type: none"> <li>Describe the structure of the Earth.</li> <li>Explain the theory of tectonic plate movement including types of plate boundaries.</li> <li>Formation of the original atmosphere of the Earth.</li> <li>Explain the roles of photosynthesis, respiration and combustion in the maintenance of the current atmosphere.</li> </ul>	<p>I can describe scientific processes and explain how they work.</p> <p>I can make links between science concepts and geography content.</p> <p>I can identify and explain how chemical reactions effect our everyday lives.</p>	Wk 4	<p>Homework:</p> <p>Set:</p> <p>Due:</p>

Week 5 Everchanging Earth	<ul style="list-style-type: none"> <li>Explore the environmental effects of carbon and sulphur emissions.</li> <li>Describe measures used to address the problems of global warming and acid rain.</li> <li>Describe tests to identify oxygen and carbon dioxide gas.</li> </ul>	<p>I can identify examples of environmental damage caused by emissions.</p> <p>I can apply knowledge of environmental solutions to suggest improvements in my community.</p> <p>I can describe chemical tests used to identify unknown substances.</p>	Wk 5	<p>Homework:</p> <p>Set:</p> <p>Due:</p>
Week 6 Rate of chemical change	<ul style="list-style-type: none"> <li>Explain particle theory in terms of chemical reactions.</li> <li>Identify the four signs of a chemical reaction.</li> <li>Describe practical methods used to determine the rate of reactions.</li> <li>Describe the role of a catalyst in chemical reactions.</li> </ul>	<p>I can explain how particle theory helps us understand chemical reactions.</p> <p>I can identify signs of a chemical reaction during a practical experiment.</p> <p>I can describe how to measure the rate of a reaction using time and observable changes.</p> <p>I can define chemical concepts.</p>	Wk 6	<p>Homework:</p> <p>Set:</p> <p>Due:</p>
Week 7	<ul style="list-style-type: none"> <li><b>*Investigate the effect of acid concentration on rate of reaction *</b></li> <li><b>*Investigate the effect of temperature on the reaction between hydrochloric acid and sodium thiosulphate*</b></li> </ul> <p><b>*Required practical*</b></p>	<p>I can use practical methods to investigate the factors that effect the rate of chemical reactions.</p> <p>I can evaluate my results against the results of others.</p>	Wk 7	<p>Homework:</p> <p>Set:</p> <p>Due:</p>