





<p><b>This half term: Skills, Knowledge and Understanding to be developed:</b></p> <p><b>Skills (students <u>WILL BE ABLE</u> to by the end of the Learning Programme):</b> identify trends and patterns in data provided in tabulated and graph form; recall the observations of the reactions of Group 7 elements with iron, group 1 metals and halide solutions.</p> <p><b>Knowledge (students <u>WILL KNOW</u> by the end of the Learning Programme):</b> how the reactivity of group 1 and group 7 elements change down a group; the general properties of group 1 and group 7 elements.</p> <p><b>Understanding (students <u>WILL DEMONSTRATE THEIR UNDERSTANDING</u> by the end of the Learning Programme):</b> by answering a range of questions that focus around 'describe', 'explain', 'compare', 'analyse' and 'plan'; interpreting graphs and trends within a set of data; students will carry out practical activities using flame tests and reactions with silver nitrate solution to identify compounds.</p>		<p><b>Key Terms / Words:</b> alkali metals, halogens, displacement reaction, noble gases, flame test, ionic equation</p>	
<p><b>LP 3 – Week 1&amp;2 Learning Outcomes:</b></p> <p><b>Group 7 (the halogens)</b></p> <ul style="list-style-type: none"> <li>Students will identify the similarities and trends in physical and chemical properties of elements in Group 7</li> <li>Students will be able to use the reactions of halogens with alkali metals and with iron to identify the trends in reactivity of Group 7 halogens.</li> <li><b>HIGHER: The students will identify the relative reactivities of chlorine, bromine and iodine as demonstrated by displacement reactions</b></li> <li><b>HIGHER : Students will know that many reactions, including those of Group 1 elements, involve the loss of electrons and the formation of charged ions; the trends in reactivity of Group 1 elements in terms of their readiness to lose an electron and the trends in reactivity of group 7 elements in terms of their readiness to gain an electron.</b></li> </ul> <p><b>Identification techniques</b></p> <ul style="list-style-type: none"> <li>Students will be able to the use of flame tests in the identification of metal ions: Li<sup>+</sup>, Na<sup>+</sup>, K<sup>+</sup>, Ca<sup>2+</sup> and Ba<sup>2+</sup></li> <li>The students will identify the non-metal ions Cl<sup>-</sup>, Br<sup>-</sup> and I<sup>-</sup> by their reactions with silver nitrate solution <b>HIGHER: (including ionic equations)</b></li> </ul> <p><b>Properties and uses of non-metals</b></p> <ul style="list-style-type: none"> <li>Students will identify the properties and uses of chlorine and iodine</li> <li>Students will understand the unreactive nature of the Group 0 gases and the uses of helium, neon and argon.</li> </ul>	<p><b>Success Criteria</b></p> <ul style="list-style-type: none"> <li>Students will create word equations for given reactions. Students will complete a table recording observations of the group 7 elements. They will answer past paper questions on group 7 reactions.</li> <li>Students will create word equations for the precipitation reactions, and also ionic equations. They will answer past paper questions on the identification of unknown compounds.</li> </ul>	<p><b>Homework LP3 1/3</b></p> <p>Completing revision material for the mock exam</p>	
<p><b>LP 3 – Week 3&amp;4 Learning Outcomes:</b></p> <p><b>Students will apply and demonstrate new knowledge and skills in MOCK assessment</b></p>	<p></p> <p></p> <p></p> <p></p>	<p><b>Success Criteria</b></p>	<p><b>Homework LP3 2/3</b></p>

**LP 3 – Week 5&6 Learning Outcomes:**

**Water composition and water treatment**

- Students will be aware of the composition of water in 'natural' water supplies, including dissolved gases, ions, microorganisms and pollutants
- Students will understand the need for a sustainable water supply to include reducing our water consumption, reducing the environmental impacts of abstracting, distributing and treating water
- Students will explain how the public water supply is treated using sedimentation, filtration and chlorination.

**Fluoridation of the water supply.**

- Students will know the arguments for and against the fluoridation in order to prevent tooth decay.

**Separation of water and other solids/liquids.**

- Students will know how sea water is desalinated to supply drinking water including the sustainability of the process.
- Students will know the terms associated with solutions.
- Students will know how to separate water and other miscible liquids by distillation.

**Solubility and solubility curves.**

- Students will know what is solubility and simple methods to determine solubility and produce solubility curves.



APP

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**Success Criteria**

- Answer exam style questions relating to the treatment of the public water supply
- To be able to interpret graphs on fluoridation of drinking water to answer a QER question.
- To be able to describe the process of distillation.

**Homework LP3 3/3**

Complete quiz on google classroom on water.