



**Year: 9**

**Subject: Science (chemistry)**

**Topic: The periodic table**

Knowledge and Understanding to be developed:

**Homework:**

Long answer question from booklet

Create a revision poster on group 1 metals

Further work on gases

**lessons**

**Skills/practicals**

**Lesson 1: Mendeleev's work and the periodic table**

Use the periodic table to find information about elements.  
Describe how the periodic table is arranged  
Explain how Mendeleev made predictions using his periodic table

**Lesson 2 Atomic structure of atoms**

Recall that atoms are made out of electrons, neutrons and protons  
Describe the structure of an atom  
Use the atomic numbers to find how many neutrons, protons and electrons atoms contain

**Lesson 3 electronic configuration**

Recall that electrons are found around the nucleus  
Use the simulation atomscope to find out how electrons are arranged around the nucleus  
Draw the atomic structure of the first 20 elements

**ICT**

Use computer simulations

**Lesson 4 Group 1 metals and trend down the group**

Recall observations of the reactions of group 1 metals with water and oxygen.  
Describe the trend in reactivity down the group.  
Explain the reactions taking place using word equations and/or symbol equations.

**Class demonstration:**

Reactions of group 1 metals with oxygen and water.

**Lesson 5 testing for hydrogen and oxygen**

recall how to test for hydrogen and oxygen  
Describe the observations made in each test

**Class practical:**

Testing for hydrogen and oxygen

**Lessons 6 : group 7 and 0 halogens properties and uses**

Recall the names of group 7 and group 0 elements.  
Describe every day uses of group 7 and group 0 elements.  
Link the properties of group 7 and group 0 elements to their uses.

<p><b>Lesson 7: Fluoride in drinking water</b></p> <p>Recall the benefits of fluoride in drinking water  Consider and weight evidence for and against the fluoridation of water  Form an opinion based on the reviewing of facts and information</p>	<p>Literacy:  Distinguish between facts  evidence and bias  response &amp; analysis  9.RA5</p>
<p><b>Lesson 8-11 : testing for ions (specified practical)</b></p>	
<p>Testing for group 1 ions using flame tests.  Testing for group 7 ions using silver nitrate</p> <p><b>Scientific investigation:</b></p> <ul style="list-style-type: none"> <li>- write a valid method that will enable them to successfully identify unknown salts.</li> <li>- Carry out the investigation safely and efficiently.</li> <li>- Record results in appropriate tables.</li> <li>- Draw conclusions from observations and use ionic formulas to display findings.</li> <li>- Evaluate flaws in the method and suggest improvements.</li> </ul>	<p><b>Specified practical:</b>  Testing for group 1 and group 7 ions (qualitative analysis)</p> <p><b>Literacy:</b>  <b>select structures to organise writing using appropriate features effectively</b>  <b>Structure and organization</b>  <b>9WS1a</b></p> <p><b>Use a wide range of technical terms, language expression consistent with subject knowledge</b>  <b>Language</b>  <b>9.WL2</b></p> <p><b>Synthesise and analyse information to gain in depth understanding</b>  <b>Response &amp; analysis</b>  <b>9RA3</b></p>
<p><b>Lesson 12 – end of topic test</b></p>	<p>End of topic assessment</p>