**Student Worksheet**

**Practical 5: Flame colours**

**Analysis of results**

* Note the colour of the flame in a table.
* Note the colours you see and approximately how many lines.

**Data**

* A spectroscope splits a colours into the individual colours that are mixed together to make that colour.
* Ask your teacher to explain the significance of these observations before you answer the questions.

**Equipment/materials**

* Group 1 and 2 solid chlorides, sulphates and nitrates
* Salts dissolved in alcohol in squeezy bottles
* Splints
* Watch glasses
* Spatulas
* Discharge tubes
* spectroscopes

**Objective**

* To understand the complexity of the movement of electrons in atoms

**Safety**

* Wear safety glasses.



Harmful



Harmful

**Procedure**

1. Add a small amount of compound onto a watch glass.
2. Wet the end of a splint in a beaker of water.
3. Dip the splint into the compound then into the edge of a Bunsen flame with the air hole half open (DO NOT BURN THE SPLINT)
4. Note the colour of the flame in a table.
5. Repeat the experiment above looking at the flame through a spectroscope.
6. Note the colours you see and approximately how many lines.

**Questions**

1. What happens to the electrons in the atoms when they are heated in the Bunsen burner?
2. Where does the light energy being emitted come from?
3. Explain how the colour you observed is made up.
4. How far away from the atom’s nucleus will electrons fall back to? What do we say has happened to those excited further than this point?

**From the examiner…**