

### **Lab 4.1: Flame Test Lab (Spectroscopy)**

Make sure you have the following things included in your post lab before handing it in. Be sure that your lab is stapled in the order listed below.

- 1) Lab Handout
- 2) Hypothesis
- 3) Observations
- 4) Analysis
- 5) Questions

**Lab Handout:** Always make sure you put this at the front of each lab as it helps your teacher identify the lab quickly.

**Hypotheses:** Remember you only need one hypothesis in this lab. It should be more of a hypothetical hypothesis about what you should be able to determine if you make careful observations of the colors produced in the flame test lab. Be sure to explain why those observations can help you prove the identity of the compound.

**Detailed Observations:** This is a major component of this lab. Make sure you take/took notes that were very specific for each metal compound. For example, “orange” would not be good enough. You would need to relate that color orange to a real world entity or break out a color wheel and be specific about the shade of orange you saw.

**Analysis:** You must write down the letter of your unknown chemical, make careful/detailed observations of the colors seen, and predict the identity of the unknown substance based on these observations. Be sure to justify your answer with observations!

**Questions:** There are seven questions you must answer at the end of the lab. Most of the answers should be in your notes, but you may need to do some independent research (especially in question seven) to get the correct answer. It is very important to understand how each compound produced different colors by the end of this lab. Make sure you ask your teacher if you do not understand this concept.