**Lab report guide for flame test/emission spectroscopy lab**

**Introduction** - needs to include the following:

1. Explanation of bohr model and quantized energy levels
2. Definition /explanation of atomic emission spectrum and why they are important
3. What is Absorption
4. What is Emission and when is it seen
5. Properties of light
6. State Purpose of lab

**Methods and materials** - what you did, with what equipment, how? It needs to be in paragraph form. NO personal pronouns. In past tense.

**Results**- needs to include your results only!! Do not include any conclusions or explanation for your observations. You need to provide data tables with proper titles. Include units where necessary . You should include the data table given in your lab handout that gives the representative wavelengths.

**Discussion -** needs to include the following:

1. A detailed explanation on why different compounds produced different colors that ties into the introduction
2. Explain the equations used to do your calculations of wavelength and energy. Make sure to explain data tables.
3. Identity of your unknown with citation of evidence
4. Is the flame test a test for the cation (metal) or the anion (nonmetal)? Explain using evidence from your data.
5. Sources of errors. Compare your results with the correct results and give several reasons on why there is a difference. (everyone had error so do not say no error)

**Conclusion**- restate purpose and accept or reject your hypothesis. Practical uses for emission spectroscopy (taking it further) such as the handout I had you read during the lab on the 2020 Olympics

**Works cited**- make sure not to plagiarize. Points will be deducted from the discussion and introduction for misused paraphrasing. You will receive a zero for copy and pasting parts of your paper without proper quoted citations. You need a minimum of 5 cited sources. Wikipedia is not a reliable source. Your sources need to be reliable.