1: Up and Atom
Flame Test Lab

To complete this lab, you will write a laboratory summary, using this sheet to guide you. Your final lab report should be typed. The following sections should be completed, in order, as they appear below.

COVER SHEET: A cover sheet with nothing else but:

- Title of the lab: A short, descriptive, title that tells the reader what the lab is about.
- Your name
- Your partners' names
- Due date of the lab report
- Class period

PURPOSE: What are we trying to determine/ do in this experiment?

PROCEDURE: A step by step procedure for setting up the experiment and collecting data over the course of the experiment. Directions should be numbered; and read something like a recicpe. Underline any materials you will need once you have written the procedure.

DATA: Organize ALL data into a neat data table. This means you will need in depth observations. Things to observe:

- Color of each of the flames (knowns and unknowns)
- Color of each of the solutions (knowns and unknowns)
- Anything unusual, hard to see, unclear, etc.

CONCLUSION: Answer the following questions using complete sentences. You will be graded on the quality, completeness, correctness, and style of your writing.

1. Use the Bohr model of the atom to explain how electrons move between energy levels and emit light. What supplied the energy for the electrons to move between energy levels in this experiment?
2. In this lab, you observed that each metal ion produced a different color flame. Explain why each flame was a unique color. In your answer, include
    a. discussion of the electromagnetic spectrum
    b. the relationship between wavelength, energy, and color
    c. an application of this phenomena
3. Does the flame test provide a good method for identifying unknown elements? Explain and justify your answer.
4. Correctly identify the two unknown samples and explain how you identified them.

Grading Rubric

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|---|---|
| Cover Page<br>• Title of the lab<br>• Your name<br>• Your partners' names<br>• Due date of the lab report<br>• Class period | /2.5 |
| Purpose<br>• Clear statement about what we set out to do with this lab | /2.5 |
| Procedure<br>• Step by step, repeatable, clear<br>• Materials are underlined in procedure<br>• Complete, no steps skipped or assumed | /5 |
| Data<br>• Table is neat, organized, readable, complete<br>• Reflects student understanding of lab concepts and practices<br>• Quality/ completeness of observations | /10 |
| Conclusion<br>• Question 1: 5 points<br>• Question 2: 10 points<br>• Question 3: 5 points<br>• Question 4: 10 points | /30 |

NOTES:

- The writing style is academic, 3rd person, and passive voice. Points will be deducted for improper style.
- Your procedure and data will be the same for all members of your group. Everything else should be in your own words. Failure to do so is plagarism.
- Cite any sources that you use – Chicago, APA, MLA, or ACS style.
- Labs must be in the correct format, or they will be given back to redo and will be counted as late.