Chemistry
Unit 2: Atomic Structure and Nuclear Processes

Flame Test Lab

I CAN: _____
_____

PROCEDURE:

1. Obtain one toothpick soaked in each solution. Place on a paper towel and do not let the toothpicks come in contact with each other.
2. Hold each toothpick with the crucible tongs in the Bunsen burner. Avoid burning the toothpick and let the solution evaporate in the flame. **Use the beaker of water to put out the toothpicks.**
3. Record the color of the flame in your data table. Be as specific as possible in your description. Continue using different toothpicks until the entire data table is complete.
4. Then obtain two unknown toothpicks. Determine the metal found in the solution of the unknown and record it in the data table.
5. Clean up your area and wash your hands.

Data:

Metal Ion	Flame Color
Ba^{+2}	
Li^{+1}	
Ca^{+2}	
K^{+1}	
Sr^{+2}	
Cu^{+2}	
Na^{+1}	
Unknown 1	
Unknown 2	

Flame Test Lab

To complete this lab, you will write a lab report, using this sheet to guide you. Your final lab report should be typed, printed, and turned in **or** emailed/shared with me. The following sections should be completed, in order, as they appear below.

TOP SECTION (3 points):

Name		Class
Date	Title of lab	Hour

PURPOSE (4 points): What are we trying to determine/ do in this experiment?

MATERIALS (3 points): A list of all materials and equipment used during the lab

PROCEDURE (5 points): 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 recipe.

DATA (5 points): Organize all data into a neat data table. Data table should not be split onto more than one page.

LAB QUESTIONS (5 points each): Answer the following questions using complete sentences. You will be graded on the quality, completeness, and correctness.

1. 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.
3. Is the flame test 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.

CONCLUSION (10 points): Write at least one paragraph discussing the major concepts and using scientific vocabulary. What conclusions can you make? Do not just repeat the procedure.

Total of 50 points