

Chemistry A

Flame Test

Name: _____

Date: _____ Period: _____

Safe Guidelines: MUST WEAR YOUR SAFETY GOGGLES AT ALL TIMES

Procedure:

- Light the bunsen burner.
- Obtain a wood splint that has been soaking in a solution for the desired ion.
- Gently, pass the wood splint into the edge of the flame.
- Observe the color. It will happen quickly, only about 3-5 seconds.
- Do not leave the wood splint in the flame for long because it will catch on fire.
- Repeat for each ion. (If necessary, perform a second test of the ion to verify the color)

Hint: Some colors are dual blue/violet and dual yellow/orange.

Ion	Color of Flame
Na ²⁺	
Sr ²⁺	
Cu ²⁺	
Ca ²⁺	
K ¹⁺	

- g. Test the unknown solutions:**

Solution	Color of Flame	Possible Ion(s)
1		

Post Lab Questions:

- 1. Name the colors of visible light from lowest energy to highest:**

- 2. List the ions in order of lowest energy released to highest energy released. (Use your data and the spectrum.)**

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3. Atoms can gain or lose energy in set amounts. When atoms gain and lose energy electrons move in orbitals. Use the following terms correctly while describing how an atom gains and loses energy. GROUND STATE, EXCITED STATE, QUANTUM, PHOTON, ELECTRON, ORBITALS, LIGHT

4. Locate the ion's element on the Periodic Table. Form a prediction about how their position on the periodic table relates to the energy observed during the flame test.

5. A glass rod is being heated. It emits a pink to light red color. Using your data, which ion is present in the glass rod?