

Name \_\_\_\_\_

Period \_\_\_\_\_ Date \_\_\_\_\_

## **Flame Tests Lab Make-up Assignment**

Visit the following website for information for a demonstration of some flame tests: [www.trschools.com/staff/g/cgirtain/Weblabs/spectrolab.htm](http://www.trschools.com/staff/g/cgirtain/Weblabs/spectrolab.htm)

As you read through the information about spectroscopy and view the flame tests, record your data on the table below and answer the questions that follow on a separate sheet of paper using complete sentences.

<b>PART 1 – KNOWN ELEMENTS</b>	<b>FLAME COLOR</b>
Barium	
Calcium	
Sodium	
Rubidium	
Potassium	
Lithium	
<b>PART 2 – UNKNOWN ELEMENTS</b> Identify the metal of the unknown	
Unknown 1 - ? _____	
Unknown 2 - ? _____	

- 1) Explain how a metallic ion produces a characteristic color in a flame test.
- 2) When a glass rod is heated, a yellow flame is observed. What conclusion(s) could be drawn from this observation?
- 3) Could flame tests be used as a conclusive test for detecting metals present in a mixture? What difficulties could occur? Explain.
- 4) Would color blindness be a factor in completing flame tests? Explain.
- 5) Using the process of flame tests, describe how metallic salts would be used in fireworks.
- 6) Lithium produces a red spectrum line at 670.8 nm. Calculate the energy of a photon with this wavelength. ( $\lambda = hv$ )