

Name: _____

Lab: Flames Gone Wild!

Lab Credit Sheet

For Teacher Use Only:

Minutes _____

Approved _____

Answer the following questions with thoughtful, detailed answers in complete sentences. Cite specific examples from your observations and results of the lab activity.

1. After seeing the spectra of various elements in this lab, explain how the different colors of light are produced. Use the terms *ground state*, *excited state*, and *electron configuration* in your explanation.
2. Why do you think an element's spectrum is often called its "fingerprint?"
3. What evidence can be observed to show that atoms of an element are in the "excited state?"
4. How can flame tests and emission spectra be used to identify unknown elements?
5. In the real world, who would benefit from being able to identify elements this way? Describe 2 careers in which this knowledge would be valuable.