Name:_____ Lab Partner(s):_____

Flame Tests Lab

Objective: to use flame tests to observe the characteristic colors of metal cations.

Procedure:

1. Record the names and formulas of the provided salts in the table below.
2. Ignite the burner.
3. Dip a clean cotton swab into the test tube of one of the salt solutions.
4. Place the wet end of the cotton swab in the hottest part of the flame. The water in the solution will temporarily prevent the swab from burning while the metal ions absorb energy. Place the used swab in a beaker for disposal.
5. In the table below, record the color of the flame.
6. Using a new cotton swab, repeat steps 3-5 for each salt solution.
7. Clean glassware.

Data:

Name of Metal	Formula of Salt	Color

Questions:

1. Why is light of specific wavelengths produced by a heated metal?

2. Some commercially available fireplace logs burn with red and/or green flame. Based on your data, what elements might produce these colored flames?

3. Fireworks contain gunpowder and chemicals to produce colors. What elements might be used to produce fireworks with these colors: (a) yellow (b) orange?