**Flame Demonstration Key**

*Note*: Students will watch the two minute video and then answer the following questions. After 5minutes reflecting on their answers, lead the class in a discussion about the properties of the flames.

1) How could this chemical property of compounds/elements be used in forensics?

**Substances could be burned or held next to a flame to see what color of flame/light they emit. Based on the flame colors, the substance may be identified by referencing an index of known flame colors with the respective element or compound.**

2) What causes the flames to be different colors?

**Each element has a different chemical property in the way it reacts in the flame. The heat and light energy cause electrons of the atoms to become excited. Some of the electrons actually jump to a higher energy level. When these electrons fall back to their original level, light energy of a certain wavelength is released. Each individual element’s atoms are specific in their excitation ability and the energy levels possible for their electrons; thus, each element releases a different wavelength of light energy (or color seen).**

*Note*: the below table is included for reference material.

