

Metallic Flames

Name _____ Date _____ Period ____ Group ____

Problem: When different metallic salt compounds are heated in a flame, what specific characteristic about the flame's appearance changes depending on which metallic element is in the compound?

Hypothesis: _____

Variables: By the time you finish this experiment you will need to identify the different types of variables present in this investigation. Consult your notes for definitions of the types of variables.

Independent Variables: _____

Dependent Variables: _____

Controlled Variables: _____

Procedures:

- 1–Your teacher will be performing this lab for each of the compounds being tested. Room lights should be off, and blinds or shades closed.
- 2–Observe the appearance of methanol alone as it burns on a watch glass.
- 3–Place several grams of each metal salt onto separate watch glasses, one substance per watch glass.
- 4–Add enough methanol to cover the substance on the watch glass, and light the methanol.
- 5–As the methanol burns, record what is different about the flame when compared to methanol alone.

Materials: Methanol, goggles, various metal salts, 1 watch glass for each compound, lighter/matches

Safety: Wear goggles, wash hands after handling solutions

Observations

Test Solution	Your Results	Class Results by a Show of Hands (range / mode)
Sodium chloride		
Copper sulfate		
Strontium chloride		
Lithium chloride		
Sodium bicarbonate		
Calcium chloride		
Copper chloride		
Potassium bromide		
Unknown		

