

Metallic Flames

Name _____ Date _____ Period ___ Group ___

Problem: When you heat different metallic salt compounds over 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–Dip the end of a nichrome wire loop into a solution of one of the compounds given to you. Then hold the end of the nichrome wire loop about a half inch to an inch above the wick of an alcohol or gas burner and record your observations in the spaces provided below. Do not let the nichrome wire loop touch the wick or burner opening under any circumstances! This will contaminate the other tests you do and the results will be unreliable.

2–Repeat the flame test using each of the other substances provided. Make sure you rinse the end of the nichrome wire loop with distilled water before testing a new solution.

Materials: Burner, goggles, 1 test tube or vial of each solution, nichrome wire loop, beaker, distilled water

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 nitrate		
Lithium chloride		
Sodium bicarbonate		
Calcium chloride		
Copper chloride		
Potassium chloride		
Unknown		

