Lab 3: Flame Tests

Materials:

nichrome wire
water
2 – 50mL beakers
HCl solution
cupric sulfate
strontium chloride
cobalt chloride
stannous chloride
ferric chloride
barium chloride
potassium chloride
copper chloride
nickel chloride
manganese chloride

Procedure:

1. Add about 20mL of HCl solution to a 50mL beaker.
2. Fill the other 50mL beaker with water.
3. PROPERLY, light the Bunsen burner. Remember to light the flame, THEN turn on the gas. Adjust the burner so that the flame is only blue.
4. Dip your nichrome wire in the HCl solution, then hold it in the flame until a uniform bright orange flame forms.
5. Next dip the nichrome wire in the water, and then into one of the chemicals. Make sure that some of the chemical adheres to the nichrome wire, if it doesn't dip the water in water and try again.
6. Hold the wire in the flame and observe the color. Record your data in a CHART!! Be as specific as possible about the color.
7. After you have recorded the color of the flame, be sure the clean the nichrome wire by dipping it back into the HCl and holding it in the flame.
8. Repeat this procedure until you've tested each chemical.
9. Remember: between chemicals to clean the nichrome wire using HCl. Repeat this procedure until you've tested each chemical.
10. Remember to CLEAN UP!!!

Questions:

1. What is causing the metal-containing compounds to emit light? (Be specific)
2. Why do you dip the nichrome wire in the HCl between testing each chemical?
3. What does "nichrome" mean?
4. Why do the metals emit different colors of light?

5. What is the standard electron configuration for iron?