Ionic Compound Naming Practice **Name _____**

Overarching question: Why are properly naming compounds and writing formulas important?

Specific Question: How are formulas derived from names and vice versa?

Understandings:

- Ionic compounds contain a cation (generally metallic except for NH_4^{1+}).
- Formulas are written from compound names by finding the oxidation states of the ions and crossing the absolute value of their oxidation states.
- The metallic ion will have a roman numeral if it has more than one oxidation state.
- Names are derived from formulas by naming the ions
- If the cation has more than one oxidation state, a roman numeral is assigned to the cation using the oxidation state of the anion.
- Polyatomic ions are treated like any other ion except they may need parenthesis.
- The original subscripts of polyatomic ions remain unchanged through the formula writing process.

Procedure:
At each lab station are 2-3 containers of ionic compounds – some are pure samples, others are aqueous solutions of a compound. Note the identification *(ag)* after a formula means aqueous – dissolved in water, and *(s)* means solid (pure). Move to each station as efficiently as possible, completing the table below. Remember to use Roman Numerals to name the ions that can have more than one charge. After you have completed each container, answer the questions that follow.

Your work will be evaluated for (1) accuracy, (2) completeness, (3) neatness/legibility.

Complete the missing information in the chart:

Vial	Cation (metal) Symbol and Name	Anion Symbol and Name	Compound Formula	Compound Name	Color of Compound & other Physical Characteristics

Conclusions:

1. Circle the names (on the chart) of all binary compounds

2. Which of the above contain polyatomic ions?

3. Some of the compounds were very colorful. In what general area of the periodic table are the ***cations*** of these compounds found?

4. Which of the items in the table have cations that have the same name but have different colors?

5. List 3 physical properties that you expect all of the observed chemicals should have. Remember physical properties are properties that are observable using the 5 senses.