

Chemical Formula

Tells the _____ number of atoms of each element in a _____.

Molecular: (_____ bonding)

Formula represents the number of _____ of each _____ in a single _____.

Ionic: (_____ bonding)

Formula represents the _____ of positive and negative _____ in one _____.

Ionic Bond

The _____ that binds _____ charged _____ together.

Metals

- _____ electrons
- ions are _____ charged
- _____

Nonmetals

- _____ electrons
- ions are _____ charged
- _____

Writing Ionic Formulas

1. Write the _____ for the _____.
 - The _____ is written first.
 - The _____ is written second.
2. Determine the _____ on each ion.
3. Select _____ that will make the _____ charge equal to the _____ charge.

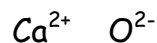
examples: sodium chloride

magnesium chloride

Criss-Cross Method for Formula Writing

- Write symbol of _____ followed by symbol of _____ along with their _____.
- Use the _____ of the charge of each ion as the _____ for the other.
- If a subscript is _____, omit it.
- If the subscripts are the same, _____ them.
- Subscripts must be simplified in an ionic formula.

Examples:



The Chemistry Quiz

CR1. _____

CR2. _____

1. _____

2. _____

3. _____

4. _____

5. _____

Ionic compounds are composed of _____ and _____. When writing an ionic formula, the total _____ charge must equal the total _____ charge because the number of electrons _____ must equal the number of electrons _____. Always write the symbol of the _____ first, followed by the symbol of the _____. The _____ method is a short-cut to correct formula writing as long as we remember to simplify our subscripts!

In each box, write the formula of the ionic compound consisting of the positive ion to the left of the box and the negative ion above the box.

	Cl^-	S^{2-}	F^-	N^{3-}	O^{2-}	P^{3-}
Mg^{2+}						
Cs^+						
Cr^{3+}						
Na^+						
Zn^{2+}						
Al^{3+}						

Ternary compounds have _____ kinds of elements. They are nearly always composed of a monatomic (_____) metallic ion and a polyatomic (_____) anion. The only positively charged polyatomic ion is _____. To write the formula of a ternary compound is no different than to write the formula of a binary compound with one exception. If a subscript is necessary for the polyatomic ion in order to _____ charge, we must place the polyatomic ion in _____.

In each box, write the formula of the ionic compound consisting of the positive ion to the left of the box and the negative ion above the box.

	OH^-	SO_4^{2-}	NO_3^-	CO_3^{2-}	PO_4^{3-}
K^+					
Mn^{2+}					
NH_4^+					
Al^{3+}					
Ca^{2+}					
Fe^{3+}					

Worksheet: More Binary and Ternary Compounds

Name _____

Write the formula of the compound formed from the following pairs of ions:





