First step

IS IT IONIC OR COVALENT?

Writing Formulas for Ionic compounds

1. write the symbols in order
2. write in the elements ionic charge
3. drop the charges (+ and - sign)
4. criss-cross the numbers and make them subscripts
5. reduce the subscripts, if possible. Drop the number 1.

Ionic Compounds

Transfer of electrons

covalent compounds

sharing of electrons

Ionic Compounds

1. know the formula
2. All the Bohr Diagram Ion rules apply
3. Draw the Ions side by side

Bohr Diagrams

Naming Ionic Compounds

1. The name includes both elements in the formula
2. The name of the metallic element appears first
3. The non-metallic element appears second. It's ending changes to **IDE**
4. If the metallic element has more than one charge **(multivalent)**. Then a Roman numeral must be put in to identify which charge is present

Be careful

Double-check everything

Things to remember

★ When doing covalent formulas don't look at the ion charges
★ Remember there are **diatomic** molecules, that chemical equation might not actually be balanced
★ Don't rush through it
★ Triple check everything

Drawing atoms

1. Draw nucleus
2. Draw symbol, proton number, and neutron number in the nucleus
2. Draw electrons around the nucleus

Bohr's model

Cont'd for Ions only

4. Add square brackets
5. Show ion charge (upper right)
★ Positive ions always have empty valance shells
★ Negative ions always have full valance shells

Bohr's Diagram

Cont'd for Ions only

4. Add square brackets
5. Show ion charge (upper right)
★ Positive ions always have empty valance shells
★ Negative ions always have full valance shells

Bohr's Diagram

covalent compounds

1.**show** touching valance shells

Bohr's Diagram

Writing Formulas for covalent compounds

1. use the prefixes to determine the subscript for each atoms

NEVER REDUCE THE SUBSCRIPTS

Balancing Chemical Equations

1. Write the symbols and correct formulas to represent the reactants and products
2. You cannot change the formulas (cannot change the subscripts)
3. Place coefficients in front of the symbols and formulas to change the number of atoms
4. Work from the left to the right of the equation
5. When you are stuck, double up the first compound and solve it from there

Drawing atoms

1. Symbol (represents the nucleus)
2. Only draw the valance shell electrons

Lewis Diagrams

Drawing Ions

1. symbol (represents nucleus)
2. Draw valance shell electrons
★ Empty or full
★ positive ions-empty
★ negative ions-full
3. square brackets
4. charge

Lewis Diagrams

Ionic Compounds

1. know the formula
2. all the Lewis diagram Ion rules apply
3. Draw the Ions side by side

Lewis Diagrams

Polyatomic Ions

1. Don't change to ending to **IDE**
2. In a formula, if the subscript following the symbols is 2 or more, you must put brackets around the polyatomic ion

Naming covalent compounds

1. Use prefixes to identify the number of atoms in a covalent compound
2. prefixes are found on the last page of the data sheet
3. Normally don't use **mono** on the first atom
4. **IDE** ending on the second atom

Bohr or Lewis

Make sure to check if it is Bohr's model or Lewis Diagram

By **sparklyamelia**

cheatography.com/sparklyamelia/

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