

Writing Formulas & Naming Compounds (p. 615 - 621)I. Binary Ionic Compounds

1. Define the term binary compound.

Binary Compound - compound composed of two elements

2. Define the term oxidation number. (Similar to valence charges)

Oxidation Number - number of electrons of an element that are gained, lost, or shared to become stable

3. For ionic compounds, the oxidation number is the same as the charge of the ion.

Circle One : True False

4. Identify the oxidation numbers for the following elements.

Strontium = +2 Chlorine = -1 Indium = +3 Tellurium = -2

5. What are the oxidation numbers for Copper I and Copper II?

Copper I = +1 Copper II = +2

6. What is the name of the chromium with the following oxidation numbers?

+2 = Chromium (II) +3 = Chromium (III)

7. The total charge of an ionic compound must equal zero.

Circle One : True False

8. Write the chemical formulas for the following reactions. (Use a pencil.)



9. What are the three rules for determining ionic formulas?

- Determine element symbols
- Identify oxidation numbers (charges)
- Cross-over charges.

10. Define the following terms. (Not in the book.)

Cation - a positively-charged ion (Ex.) K^+ = potassium ionAnion - a negatively-charged ion (Ex.) O^{-2} = oxide ion
(add -ide suffix)

11. Circle the letter of the statement that is false concerning ions formula names.

- a. In most cases, the cation name comes before the anion name.
 b. The cation element name remains unchanged.
 c. The suffix -ide is added to the anion element root name.
 d. All of the above are correct and were not in the book.

II. Compound With Complex Ions

1. Define the term polyatomic ion.

Polyatomic Ion - positively or negatively charged, covalently bonded group of atoms

2. Which is the correct order for writing ionic compounds with polyatomic ions?

Circle One : Polyatomic Ion; Positive Ion Positive Ion; Polyatomic Ion

3. How is writing ionic compound formulas different when polyatomic ions are involved?

Parentheses are written around polyatomic ion if multiple are needed.

4. Write the chemical formula for the following reaction. (Use a pencil.)



III. Compounds With Added Water

1. Define the term hydrate.

Hydrate - compound that has water chemically attached to its ions + written into its chemical formula

2. How is the presence of a hydrate recognized in a chemical formula?

By adding the symbol "•" followed by the number of water molecules produced

IV. Naming Binary Covalent Compounds

Ex: $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$

1. Identify the Greek prefixes for the following numbers.

1	2	3	4	5
<u>mono-</u>	<u>di-</u>	<u>tri-</u>	<u>tetra-</u>	<u>penta-</u>
6	7	8	9	10
<u>hexa-</u>	<u>hepta-</u>	<u>octa-</u>	<u>nona-</u>	<u>deca-</u>

2. What is the name for the molecular compound N_2O_5 ?

dinitrogen pentoxide

2nd element changed to an "ide"

3. What is the formula for the molecular compound dihydrogen monoxide.

H_2O

Mono is not added to first element.
 Ex: CO = carbon monoxide