

Introduction to Chemical Formulas

Properties of metals

1. _____
2. _____
3. _____
4. _____

Location of metals on the Periodic Table:

Definitions:

atom

molecule

element

compound

Chemical Formulas and Chemical Names

Elements in pure form without forming molecules

Neon gas

Iron

Copper

Molecules of elements

Hydrogen gas _____

Oxygen gas _____

Chlorine gas _____

Compounds of a metal and a non-metal

NaCl _____

AlCl₃ _____

Fe₂O₃ _____

Compounds of a non-metal and a non-metal

CO _____

CO₂ _____

H₂O _____

mon _____

di _____

tri _____

Other Compounds - a bit more complicated

MgSO₄

Ca(OH)₂

Cu(NO₃)₂

SCIENCE 9 - CHEMICAL FORMULAS WORKSHEET

Name: _____

1. Use the periodic table to determine whether each of the following are metals or non-metals. Write the letter M beside metals and NM beside non-metals.

- | | | | |
|-------------|-------|----------------|-------|
| (a) Argon | _____ | (g) Fluorine | _____ |
| (b) Arsenic | _____ | (h) Gallium | _____ |
| (c) Bismuth | _____ | (i) Indium | _____ |
| (d) Cesium | _____ | (m) Molybdenum | _____ |
| (e) Curium | _____ | (n) Radon | _____ |
| (f) Erbium | _____ | (o) Titanium | _____ |

2. Write the names of the following compounds:

- (a) AgI _____
(b) Na₂O _____
(c) CuCl _____

3. Write the names of the compounds formed when the following substances combine:

- (a) Potassium + chlorine → _____
(b) Calcium + sulfur → _____
(c) Silicon + carbon → _____

4. Use the tables of combining capacities to write the chemical formulas for each of the following:

- | | | | |
|--------------------------|-------|-------------------------|-------|
| (a) silver + bromine | _____ | (e) silver + nitrate | _____ |
| (b) magnesium + chlorine | _____ | (f) zinc + hydroxide | _____ |
| (c) potassium + oxygen | _____ | (g) aluminum + sulphate | _____ |
| (d) aluminum + oxygen | _____ | (h) zinc + phosphate | _____ |

5. Write chemical formulas for compound with the following components:

- (a) one calcium atom, one carbon atom, and three oxygen atoms (this is the formula for chalk) _____
(b) seven carbon atoms and sixteen hydrogen atoms _____

Science 9 - Chemical Formulas Practice - Complete the Following Chart

Ions	Formula of Compound	Name of Compound <i>(in cases where the element is multivalent, include the appropriate Roman Numeral in the name)</i>
Cu ²⁺ Cl ¹⁻		
Fe ³⁺ Br ¹⁻		
Na ¹⁺ O ²⁻		
Mg ²⁺ O ²⁻		
Mg ⁴⁺ O ²⁻		
Compounds with Polyatomic ions		** Refer to the Table of Polyatomic ions for the names of the ions
K ¹⁺ CO ₃ ²⁻		
Be ²⁺ PO ₄ ³⁻		
NH ₄ ¹⁺ S ²⁻		
NH ₄ ¹⁺ OH ¹⁻		
Sc ³⁺ OH ¹⁻		