

Lesson 4: Ionic Compounds

- Electrically neutral (no charge)
- A cation (+ charge) joins with an anion (- charge)
- A metal ion is formed when metals **lose electrons**
- A non-metal ion is formed when a non-metal **gains an electron**
- Total number of electrons released equals total number of electrons gained
- Ions have different chemical and physical properties than atoms
- Most ionic compounds are solids at room temperature
- Has to be in the lowest ratio

Steps for Writing Ionic Compounds:

1. Identify the ions and their charges.
2. Determine the total charges needed to balance.
3. Note the ratio of cations to anions.
4. Use subscripts to write the formula, if needed.

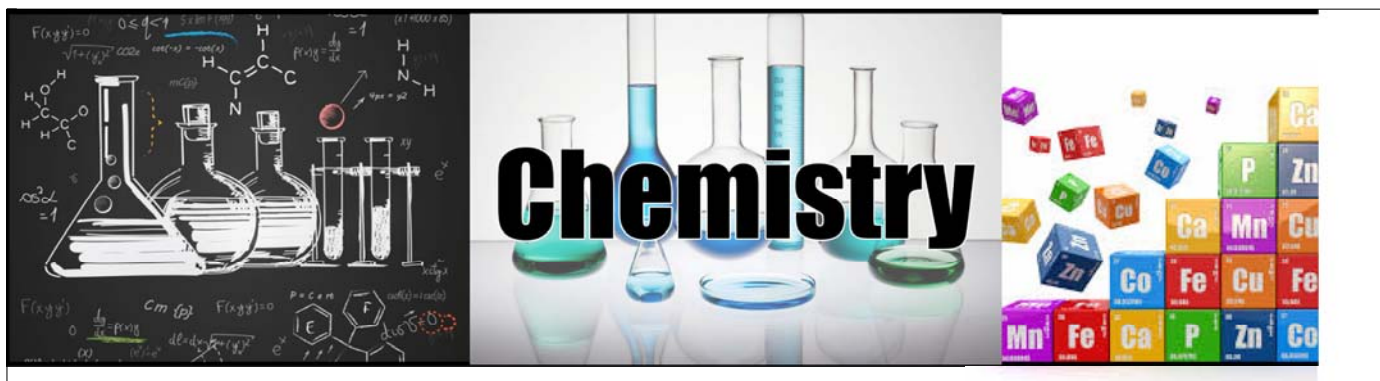
lowest ratio

+
Sodium chloride - NaCl



Ex.) Write the correct name and chemical formula for the following:

- a) ⁺ silver and ⁻ iodine AgI(s) silver iodide
- b) ²⁺ magnesium and ²⁻ oxygen MgO(s) magnesium oxide
- c) ²⁺ calcium and ³⁻ nitrogen Ca₃N₂(s) calcium nitride
- d) ²⁺ zinc and ²⁻ selenium ZnSe(s) zinc selenide
- e) ³⁺ aluminium and ⁻ fluorine AlF₃(s) aluminium fluoride
- f) ⁺ potassium and ⁻ chlorine KCl(s) potassium chloride
- a) ⁺ silver and ²⁻ oxygen Ag₂O(s) silver oxide



Ex.) Write the correct names for each of the following compounds:

a) $MgCl_2$	magnesium chloride	
b) CsF	cesium fluoride	
c) CdO	cadmium oxide	
d) $MgBr_2$	magnesium bromide	
e) K_2S	potassium sulfide	
f) Li_3P	Lithium phosphide	

Worksheet