

## Ions & Ionic Compounds

Use the tables of common ions below to write the formulas for the ionic compounds described in each of the problems. Using the first problem as a guide, fill in the data table at the bottom of the page that corresponds to each problem.

Cations					
1+ Charge		2+ Charge		3+ Charge	
Formula	Name	Formula	Name	Formula	Name
H <sup>+</sup>	Hydrogen	Mg <sup>2+</sup>	Magnesium	Al <sup>3+</sup>	Aluminum
Na <sup>+</sup>	Sodium	Ca <sup>2+</sup>	Calcium	Fe <sup>3+</sup>	Iron (III)
K <sup>+</sup>	Potassium	Ba <sup>2+</sup>	Barium		
Cu <sup>+</sup>	Copper (I)	Zn <sup>2+</sup>	Zinc		
Ag <sup>+</sup>	Silver	Cd <sup>2+</sup>	Cadmium		
NH <sub>4</sub> <sup>+</sup>	Ammonium	Hg <sup>2+</sup>	Mercury (II)		
		Cu <sup>2+</sup>	Copper (II)		
		Pb <sup>2+</sup>	Copper (II)		
		Fe <sup>2+</sup>	Lead (II)		
			Iron (II)		

Anions					
1- Charge		2- Charge		3- Charge	
Formula	Name	Formula	Name	Formula	Name
F <sup>-</sup>	Fluoride	O <sup>2-</sup>	Oxide	PO <sub>4</sub> <sup>3-</sup>	Phosphate
Cl <sup>-</sup>	Chloride	S <sup>2-</sup>	Sulfide		
Br <sup>-</sup>	Bromide	SO <sub>4</sub> <sup>2-</sup>	Sulfate		
I <sup>-</sup>	Iodide	SO <sub>3</sub> <sup>2-</sup>	Sulfite		
NO <sub>3</sub> <sup>-</sup>	Nitrate	CO <sub>3</sub> <sup>2-</sup>	Carbonate		
NO <sub>2</sub> <sup>-</sup>	Nitrite				
OH <sup>-</sup>	Hydroxide				
HCO <sub>3</sub> <sup>-</sup>	Bicarbonate				

### Problems:

- Potassium Chloride is the main ingredient in salt-substitutes used by people on low-sodium diets
- CaSO<sub>4</sub> is a component of plaster
- A substance composed of Ca<sup>2+</sup> and PO<sub>4</sub><sup>3-</sup> ions is a major component of teeth and bones
- Ammonium nitrate, a rich source of nitrogen, is often used in fertilizer mixtures
- Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub> is a compound that can be used to help purify water
- Magnesium hydroxide is called "milk of magnesia" when it is mixed with water
- Limestone and marble are two common forms of the compound calcium carbonate
- Mg<sup>2+</sup> and O<sup>2-</sup> are the two components of this ionic compound that is used in indigestion and heartburn medications
- Sodium bicarbonate is the chemical name for baking soda
- MgCl<sub>2</sub> is used as a coagulant to make tofu and is also used as a road de-icer
- Aluminum nitrate is a controversial and corrosive chemical that is used in antiperspirants and leather tanning
- Veterinarians give epileptic dogs and cats a medicine whose main ingredient is composed of K<sup>+</sup> and Br<sup>-</sup>

	Cation	Anion	Formula	Name
1	K <sup>+</sup>	Cl <sup>-</sup>	KCl	Potassium Chloride
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

