

Periodic Table with bonding rules based on location of first element

+1 | +2 |

+3 | N/A | -3 | -2 | -1 | 0

Polyatomic Ions

PERIODIC TABLE OF THE ELEMENTS

Polyatomic Ions	
NH ₄ ⁺	Ammonium
BrO ₃ ⁻	Bromate
CN ⁻	Cyanide
C ₂ H ₃ O ₂ ⁻	Acetate
(CH ₃ COO) ⁻	Acetate
ClO ₄ ⁻	Perchlorate
ClO ₃ ⁻	Chlorate
ClO ₂ ⁻	Chlorite
ClO ⁻	Hypochlorite
IO ₃ ⁻	Iodate
MnO ₄ ⁻	Permanganate
NO ₃ ⁻	Nitrate
NO ₂ ⁻	Nitrite
OH ⁻	Hydroxide
HCO ₃ ⁻	Hydrogen carbonate
HSO ₄ ⁻	Hydrogen sulfate
SCN ⁻	Thiocyanate
CO ₃ ²⁻	Carbonate
Cr ₂ O ₇ ²⁻	Dichromate
CrO ₄ ²⁻	Chromate
SO ₄ ²⁻	Sulfate
SO ₃ ²⁻	Sulfite
PO ₄ ³⁻	Phosphate

NOTE THE DIFFERENCES BETWEEN THE ENDINGS

Cl = Chlorine
 Cl⁻ = Chloride
 ClO₃⁻ = Chlorate
 ClO₂⁻ = Chlorite

- Silver (Ag) always has a charge of _____ and Zinc (Zn) always has a charge of _____.
- If the first element in the compound is red, you _____ need a roman numeral in the chemical name.
- If the first element in the compound is green, you _____ need a roman numeral in the chemical name.

Roman Numeral needed?	Name	Ions	Formula
		Mg ⁺² ClO ₃ ⁻	
	Zinc Chloride		
			Ag ₂ Cr ₂ O ₇
			MnN
	Iron(III) Nitrate		
			Sn ₂ O ₃

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Roman Numeral Needed?	Name	Ions	Formula
		Al ⁺³ MnO ₄ ⁻¹	
	Lithium Sulfide		
		Co ⁺³ Br ⁻¹	
			MnCO ₃
	Vanadium(IV) Sulfite		
			TiBr ₂
		Zn ⁺² ClO ⁻¹	
	Calcium Bromate		

Metals Review:

Metals are located on the _____ of the periodic table.

Metals have _____ electronegativities which means they are _____ at taking other atoms' electrons.

Metals have _____ ionization energies which means it is _____ to take their electrons.

Metals tend to _____ electrons to become _____ charged _____.

Nonmetals Review:

Nonmetals are located on the _____ of the periodic table.

Nonmetals have _____ electronegativities which means they are _____ at taking other atoms' electrons.

Nonmetals have _____ ionization energies which means it is _____ to take their electrons.

Nonmetals tend to _____ electrons to become _____ charged _____.