

Periodic Table with bonding rules based on location of first element

+1 | +2 |

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

Polyatomic Ions

Polyatomic Ions	
NH_4^+	Ammonium
BrO_3^-	Bromate
CN^-	Cyanide
$\text{C}_2\text{H}_5\text{O}_2^-$	Acetate
$(\text{CH}_3\text{COO})^-$	
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
$\text{Cr}_2\text{O}_7^{2-}$	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⁻¹ = Chloride
ClO₃⁻¹ = Chlorate
ClO₂⁻¹ = 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		
			$Ag_2Cr_2O_7$
			MnN
	Iron(III) Nitrate		
			Sn_2O_3

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PERIODIC TABLE OF THE ELEMENTS																		
1	H	2	Be	3	Li	4	Na	5	Al	6	Si	7	B	8	C	9	F	
	Hydrogen		Boron		Lithium		Na		Aluminum		Silicon		Boron		Carbon		Fluorine	
	1.008		10.812		6.941		22.990		26.982		28.086		10.811		12.011		19.000	
	1.008		10.812		6.941		22.990		26.982		28.086		10.811		12.011		19.000	
19	K	20	Ca	21	Sc	22	Ti	23	V	24	Cr	25	Mn	26	Fe	27	Co	
	Potassium		Calcium		Scandium		Titanium		Vanadium		Chromium		Manganese		Iron		Cobalt	
	39.098		40.078		41.996		47.987		50.942		51.981		54.938		55.847		57.946	
	39.098		40.078		41.996		47.987		50.942		51.981		54.938		55.847		57.946	
37	Rb	38	Sr	39	Y	40	Zr	41	Nb	42	Tc	43	Mo	44	Ru	45	Pd	
	Rubidium		Sodium		Yttrium		Zirconium		Niobium		Techneium		Manganese		Ruthenium		Palladium	
	84.488		84.488		87.656		91.234		90.908		98.907		95.95		101.07		102.202	
	84.488		84.488		87.656		91.234		90.908		98.907		95.95		101.07		102.202	
55	Cs	56	Ba	57	Hf	58	Ta	59	W	60	Re	61	Os	62	Ir	63	Pt	
	Cesium		Barium		Hafnium		Tantalum		Tungsten		Rhenium		Osmium		Iridium		Platinum	
	132.905		132.905		178.49		183.548		183.84		186.207		190.23		182.317		196.085	
	132.905		132.905		178.49		183.548		183.84		186.207		190.23		182.317		196.085	
87	Fr	88	Ra	89		90		91		92		93		94		95		
	Fr		Radium			90				92		93		94		95		
	223.020					228.025												

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NH ₄ ⁺	Ammonium
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(CH ₃ COO) ⁻	
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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
CrO ₄ ²⁻	Dichromate
CrO ₃ ²⁻	Chromate
SO ₄ ²⁻	Sulfate
SO ₃ ²⁻	Sulfite
PO ₄ ³⁻	Phosphate

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BETWEEN THE ENDINGS

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ClO³⁻¹ = Chlorate
ClO₂²⁻¹ = Chlorite

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 _____.