

Ion Sheet

+++ Positive Ions +++

1+	2+	3+	4+
Ammonium, NH_4^+ Copper(I), Cu^+ (Cuprous) Silver, Ag^+ Gold (I), Au^+ All elements in Group 1A	Cadmium(II), Cd^{2+} Chromium(II), Cr^{2+} Cobalt(II), Co^{2+} Copper(II), Cu^{2+} (Cupric) Iron(II), Fe^{2+} (Ferrous) Lead(II), Pb^{2+} (Plumbous) Manganese(II), Mn^{2+} Mercury(II), Hg^{2+} (Mercuric) Nickel(II), Ni^{2+} Tin(II), Sn^{2+} (Stannous) Zinc, Zn^{2+} Mercury(I), Hg_2^{2+} (Mercurous) All elements in Group 2A	Chromium(III), Cr^{3+} Cobalt(III), Co^{3+} Gold(III), Au^{3+} Iron(III), Fe^{3+} (Ferric) Manganese(III), Mn^{3+} Nickel(III), Ni^{3+} Boron, B^{3+} Aluminum, Al^{3+} Gallium, Ga^{3+} Indium, In^{3+}	Lead(IV), Pb^{4+} (Plumbic) Manganese(IV), Mn^{4+} Silicon(IV), Si^{4+} Tin(IV), Sn^{4+} (Stannic) Group 4A

--- Negative Ions ---

1-	2-	3-	4-
Acetate, $\text{C}_2\text{H}_3\text{O}_2^-$ Bicarbonate, HCO_3^- Chlorate, ClO_3^- Chlorite, ClO_2^- Cyanide, CN^- Hydroxide, OH^- Hypochlorite, ClO^- Nitrate, NO_3^- Nitrite, NO_2^- Perchlorate, ClO_4^- Permanganate, MnO_4^- Thiocyanide, SCN^- All elements in Group 7A (Halogens)	Carbonate, CO_3^{2-} Peroxide, O_2^{2-} Sulfate, SO_4^{2-} Sulfite, SO_3^{2-} Chromate, CrO_4^{2-} Dichromate, $\text{Cr}_2\text{O}_7^{2-}$ Oxalate, $\text{C}_2\text{O}_4^{2-}$ Thiosulfate, $\text{S}_2\text{O}_3^{2-}$ All elements in Group 6A	Phosphate, PO_4^{3-} Phosphide, P^{3-} Phosphite, PO_3^{3-} Arsenate, AsO_4^{3-} All elements in Group 5A	Carbide, C^{4-} Group 4A

Prefixes		Common Molecular Gases	Common Acids	Diatomic Elements
One- mono	Six – hexa	F_2 , Cl_2 , H_2 , N_2 , O_2 , SO_2 , SO_3 , CO , CO_2 , H_2S , NO , NO_2 , NH_3 , P_2O_3 , P_2O_5 , SiF_4 , HCl , HBr , HI , HF , N_2O_5 , N_2O_3 , N_2O	Hydrochloric acid HCl	Hydrogen H₂
Two- di	Seven – hepta		Sulfuric acid H₂SO₄	Nitrogen N₂
Three- tri	Eight – octa		Nitric HNO₃	Oxygen O₂
Four – tetra	Nine – nona		Phosphoric H₃PO₄	Flourine F₂
Five- penta	Ten - deca		Acetic HC₂H₃O₂	Chlorine Cl₂
			Common Base	Bromine Br₂
			Ammonia NH₃	Iodine I₂

Polyatomic Ions Containing Oxygen**		Acid Nomenclature*	
Per-.....-ate	Greatest number of oxygens	Per-.....-ic	Greatest number of oxygen atoms
.....-ate	Greater	-ic	Greater
.....-ite	Smaller	-ous	Smaller
Hypo.....-ite	Smallest number of oxygens	Hypo.....-ous	Smallest number of oxygen atoms

*Acids- Acids are molecular compounds that contain hydrogen bonded to a nonmetal to a group of atoms that behave like a nonmetal. Acids can be either binary or ternary compounds. The names of binary acids have the form Hydro-.....-ic acids. The names of ternary acids use a series of prefixes and suffixes to specify the relative number of oxygen atoms in the molecule.

**Names of polyatomic ions containing oxygen- some elements form several polyatomic ions with oxygen. A series of suffixes and prefixes is used to specify the relative number of oxygen atoms.

Dougherty Valley HS Honors Chemistry

Strong Acid, Strong Base Handout

7 Strong Acids (H ⁺) All other acids are weak			8 Strong Bases (OH ⁻) All other bases are weak	
Hydrochloric acid	HCl		Lithium hydroxide	LiOH
Hydrobromic acid	HBr		Sodium hydroxide	NaOH
Hydroiodic	HI		Potassium hydroxide	KOH
Perchloric acid	HClO ₄		Rubidium hydroxide	RbOH
Chloric acid	HClO ₃		Cesium hydroxide	CsOH
Nitric acid	HNO ₃		Calcium hydroxide	Ca(OH) ₂
Sulfuric acid	H ₂ SO ₄		Strontium hydroxide	Sr(OH) ₂
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Memorize these 15, ALL ELSE ARE considered WEAK