

Activity Series of Metals & Solubility Table- Cut out the following 2 tables and put them in the back of your composition book. These are reference tables that you will use throughout the year.

Activity of Metals Series

Metal	Ion Formed
Lithium: Li	Li ⁺
Potassium: K	K ⁺
Barium: Ba	Ba ²⁺
Calcium: Ca	Ca ²⁺
Sodium: Na	Na ⁺
Magnesium: Mg	Mg ²⁺
Aluminum: Al	Al ³⁺
Manganese: Mn	Mn ²⁺
Zinc: Zn	Zn ²⁺
Chromium: Cr	Cr ³⁺
Iron: Fe	Fe ³⁺
Cadmium: Cd	Cd ²⁺
Cobalt: Co	Co ²⁺
Nickel: Ni	Ni ²⁺
Tin: Sn	Sn ²⁺
Lead: Pb	Pb ²⁺
Hydrogen: H	2H ⁺
Copper: Cu	Cu ²⁺
Silver: Ag	Ag ⁺
Mercury: Hg	Hg ²⁺
Platinum: Pt	Pt ²⁺
Gold: Au	Au ³⁺



Solubility Table

Key: (s) = solid, (aq)= aqueous: soluble in water, H₂O = water formed (NE)= does not exist,

	Acetate	Bromide	Carbonate	Chlorate	Chloride	Chromate	Hydroxide	Iodide	Nitrate	Oxide	Phosphate	Sulfate	Sulfide
Aluminum	(aq)	(aq)	NE	(aq)	(aq)	NE	(s)	(aq)	(aq)	(s)	(s)	(aq)	(s)
Ammonium	(aq)	(aq)	(aq)	(aq)	(aq)	(aq)	(aq)	(aq)	(aq)	NE	(aq)	(aq)	(aq)
Barium	(aq)	(aq)	(s)	(aq)	(aq)	(s)	(s)	(aq)	(aq)	(aq)	(s)	(s)	(s)
Calcium	(aq)	(aq)	(s)	(aq)	(aq)	(aq)	(s)	(aq)	(aq)	(s)	(s)	(s)	(s)
Copper II	(aq)	(aq)	(s)	(aq)	(aq)	NE	(s)	(aq)	(aq)	(s)	(s)	(aq)	(s)
Hydrogen	(aq)	(aq)	Gas	(aq)	(aq)	NE	H ₂ O	(aq)	(aq)	NE	(s)	(aq)	(s)
Iron II	(aq)	(aq)	(s)	(aq)	(aq)	NE	(s)	(aq)	(aq)	(s)	(s)	(aq)	(s)
Iron III	(aq)	(aq)	NE	(aq)	(aq)	(s)	(s)	(aq)	(aq)	(s)	(s)	(aq)	(s)
Lead II	(aq)	(s)	(s)	(aq)	(s)	(s)	(s)	(s)	(aq)	(s)	(s)	(s)	(s)
Magnesium	(aq)	(aq)	(s)	(aq)	(aq)	(aq)	(s)	(aq)	(aq)	(s)	(s)	(aq)	(s)
Manganese II	(aq)	(aq)	(s)	(aq)	(aq)	NE	(s)	(aq)	(aq)	(s)	(s)	(aq)	(s)
Mercury II	(aq)	(aq)	NE	(aq)	(aq)	(s)	(s)	(aq)	(aq)	(s)	(s)	(aq)	(s)
Potassium	(aq)	(aq)	(aq)	(aq)	(aq)	(aq)	(aq)	(aq)	(aq)	(aq)	(aq)	(aq)	(aq)
Silver I	(aq)	(s)	(s)	(aq)	(s)	(s)	(s)	(s)	(aq)	(s)	(s)	(aq)	(s)
Sodium	(aq)	(aq)	(aq)	(aq)	(aq)	(aq)	(aq)	(aq)	(aq)	(aq)	(aq)	(aq)	(aq)
Strontium	(aq)	(aq)	(s)	(aq)	(aq)	(s)	(aq)	(aq)	(aq)	(aq)	(s)	(aq)	(aq)
Tin II	(aq)	(aq)	NE	(aq)	(aq)	(s)	(s)	(aq)	(aq)	(s)	(s)	(aq)	(s)
Tin IV	(aq)	(aq)	NE	NE	(aq)	(aq)	(s)	(aq)	(aq)	(s)	NE	(aq)	(s)
Zinc II	(aq)	(aq)	(s)	(aq)	(aq)	(s)	(s)	(aq)	(aq)	(s)	(s)	(aq)	(s)

Solubility Rules

1. All common salts of Group 1 elements and ammonium (NH_4^+) are soluble.
2. All common nitrates (NO_3^-) and acetates are soluble.
3. Most chlorides, bromides, and iodides are soluble except silver, lead(II), and mercury(I)
4. All sulfates are soluble except barium, strontium, lead(II), calcium, silver, and mercury(I)
5. Except for those in Rule 1, carbonates, hydroxides, oxides, and phosphates are insoluble.