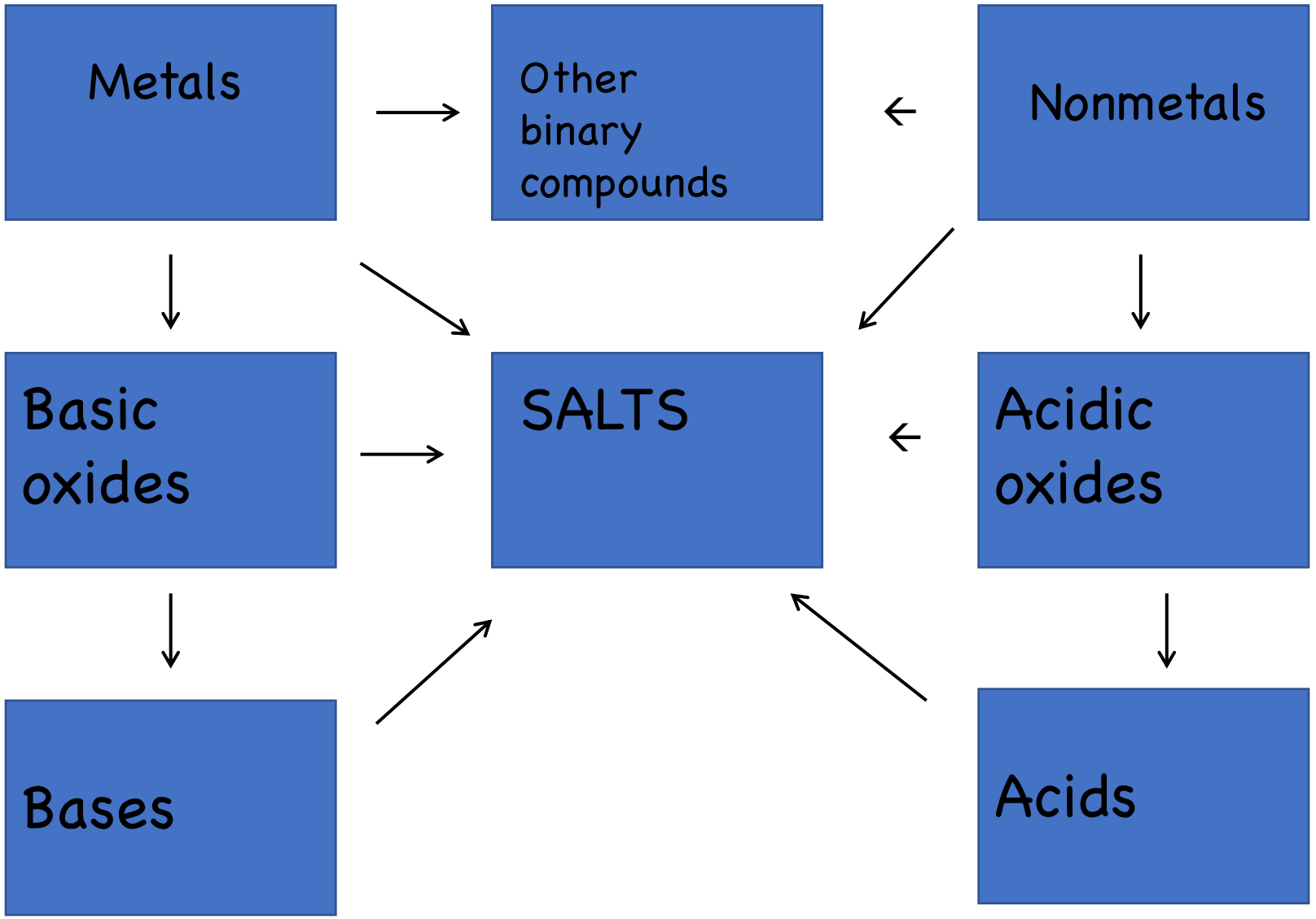

Metals
Other binary compounds
Nonmetals
Basic oxides
SALTS
Acidic oxides
Bases
Acids

anion	anion name	acid	acid name
Cl^-	chloride ion	HCl	hydrochloric acid
CO_3^{2-}	carbonate ion	H_2CO_3	carbonic acid
NO_2^-	nitrite ion	HNO_2	nitrous acid
NO_3^-	nitrate ion	HNO_3	nitric acid
SO_3^{2-}	sulfite ion	H_2SO_3	sulfurous acid
SO_4^{2-}	sulfate ion	H_2SO_4	sulfuric acid
CH_3COO^-	acetate ion	CH_3COOH	acetic acid

formula	systematic name	common name
CuCl	copper(I) chloride	cuprous chloride
$CuCl_2$	copper(II) chloride	cupric chloride
Hg_2Cl_2	mercury(I) chloride	mercurous chloride
FeS	iron(II) sulfide	ferrous sulfide
Fe_2S_3	iron(III) sulfide	ferric sulfide

$MgSO_4$ magnesium sulfate

KNO_3 potassium nitrate

Salts can be produced by…

1. Neutralization reactions
$H_2SO_4 + 2KOH \rightarrow K_2SO_4 + 2H_2O$

2. Acids react with basic oxides
$H_2SO_4 + CuO \rightarrow CuSO_4 + H_2O$

3. Bases react with acidic oxides
$Ca(OH)_2 + CO_2 \rightarrow CaCO_3\,(s) + H_2O$

4. Basic and acidic oxides can react with each other
$CaO + SO_3 \rightarrow CaSO_4$

5. Acids react with salt, the product is another salt.
$H_2S + CuSO_4 \rightarrow CuS\,(s) + H_2SO_4$

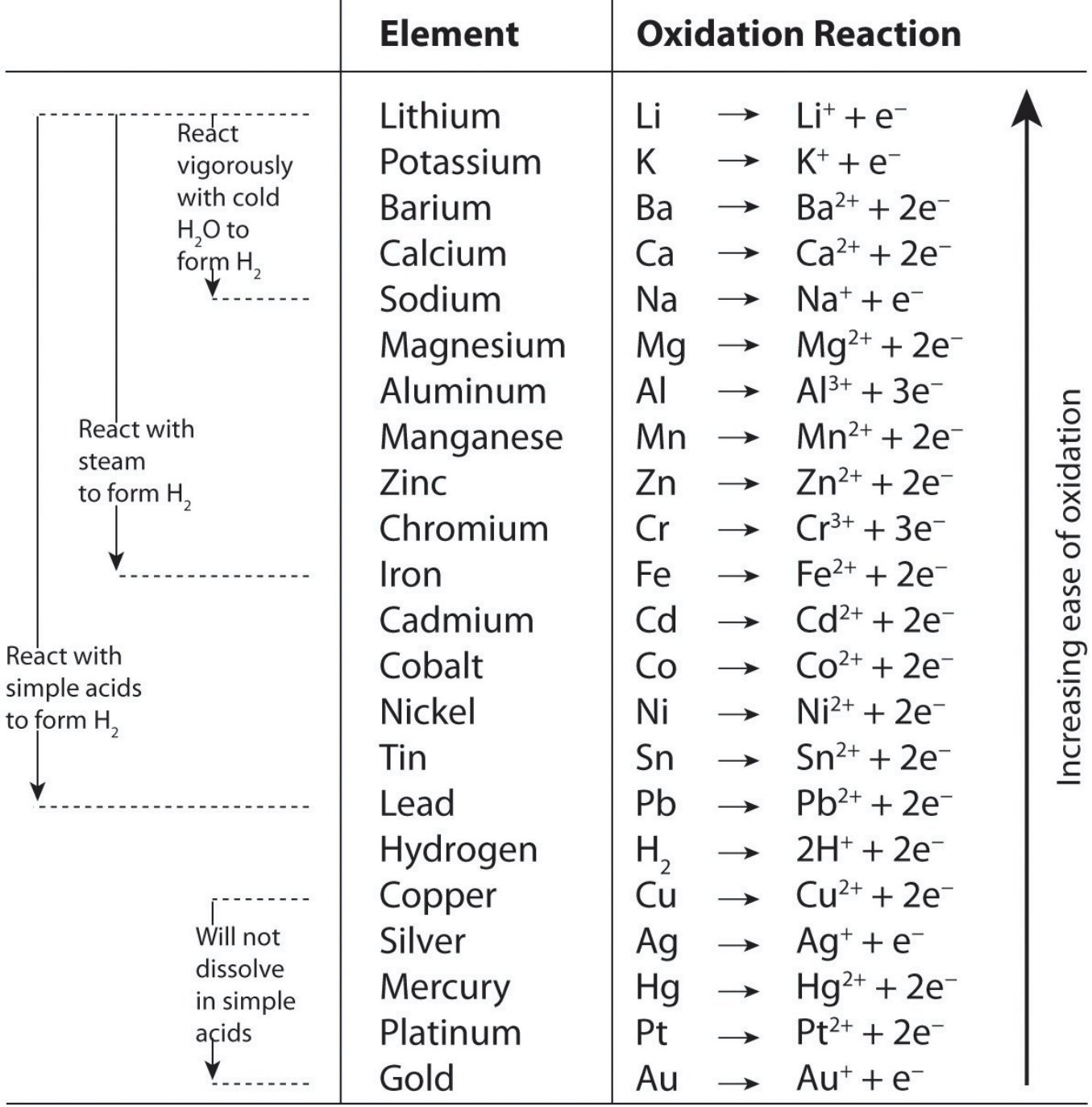
6. Reaction of Alkali with salts
$3NaOH + FeCl_3 \rightarrow Fe(OH)_3\,(s) + 3NaCl$

7. Reaction between two different salt (double displacement reactions)
$NaCl + AgNO_3 \rightarrow AgCl\,(s) + NaNO_3$

8. Metals react with acids
$H_2SO_4 + Fe \rightarrow FeSO_4 + H_2\,(g)$

9. Metals react with nonmetals
$2K + Cl_2 \rightarrow 2KCl$

10. Metals react with salts. More active metal replace less active metal.
$Zn + CuSO_4 \rightarrow ZnSO_4 + Cu$



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A salt can be described as a product of neutralization reaction.

If strong base reacts with a strong acid, neutral salt is formed. In other words if the solution of this salt has neutral pH, the salt is neutral. Examples, NaCl.

When a strong base reacts with a weak acid, a basic salt is formed (solution of this salt will be slightly basic). NaClO

When strong acid reacts with a weak base , the product will be acidic salt (the salt solution will be slightly acidic). NH_4NO_3

STRONG ACIDS: HCl, HBr, HI, $HClO_4$, HNO_3, H_2SO_4

STRONG BASES: LiOH, NaOH, KOH, RbOH, CsOH, $Ca(OH)_2$, $Sr(OH)_2$, $Ba(OH)_2$.

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