

Day 12

Acids/Bases and  
Chemical Bonding

<u>ACIDS</u>	<u>BASES</u>
--most start with H Ex. HCl	--most end with OH Ex. NaOH
--are corrosive(will eat metal)	--Some are corrosive
--taste sour	--taste bitter
	--are slippery(like soap)
--produce hydronium ions -- $\text{H}_3\text{O}^+$	--produce hydroxide ions $\text{OH}^-$
--Turn litmus paper <u>pink</u>	--Turn litmus paper <u>blue</u>
--Clear in <u>phenolphthalein</u>	-- <u>Pink</u> in <u>phenolphthalein</u>
--conduct electricity(stronger the better)	--conduct electricity(stronger the better)

# 1. Strength of Acids and Bases—

- a. Strong Acids/Bases—will completely disassociate into ions.
- b. Weak Acids/Bases—will only partially disassociate into ions.

Disassociate—breaking apart of an acid or a base when mixed with water.

Ionization—formation of ions when an acid disassociates.

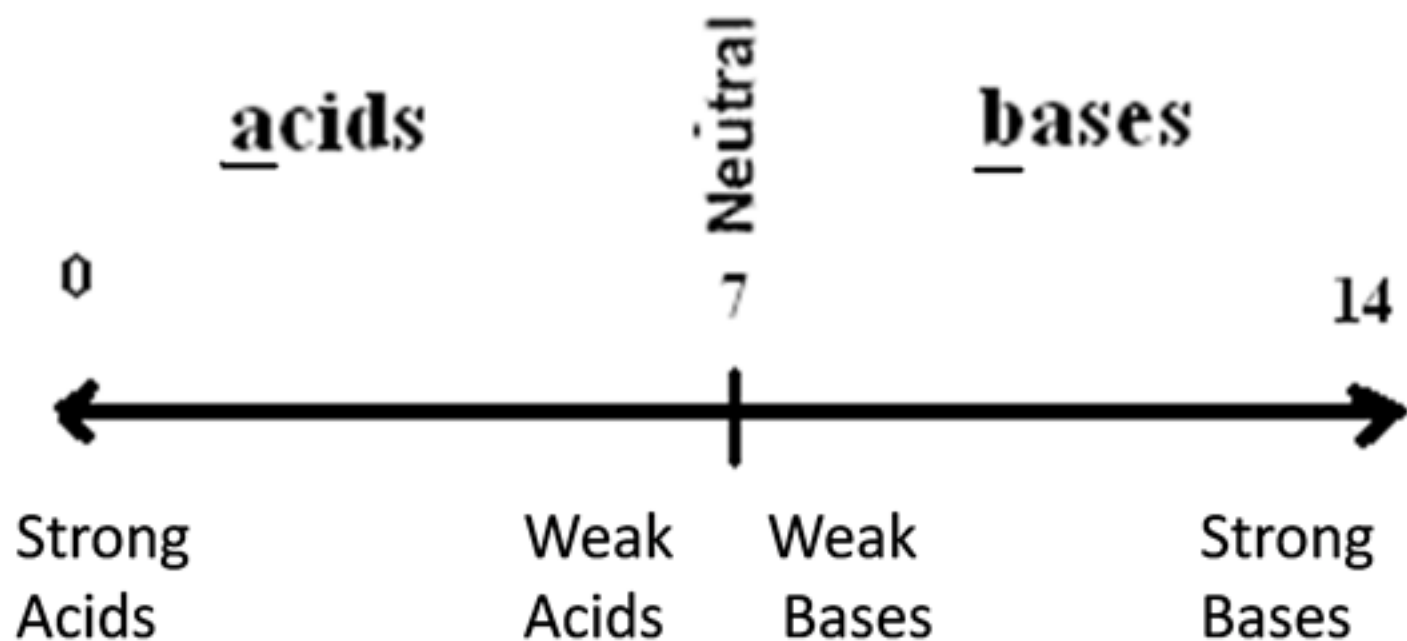
## Disassociation Reactions:

\*\*\*Must be able to tell **acid or base** and whether **strong or weak**.

- a) Is the “yield arrow” going one way or both ways????
1. One way—strong(completely disassociates)
  2. Both ways—weak(partially disassociates)
- b) Does it produce hydronium ions( $\text{H}_3\text{O}^+$ )---Acid
- Or
- Hydroxide ions( $\text{OH}^-$ )----Base



# pH Scale



# Neutralization Reaction:



# Chemical Bonds:

- a) Ionic Bonds--Involves the gaining or losing of electrons to form **ions**.
  - i) Occur b/w metals and nonmetals
  - ii) **+** ions are attracted to **-** ions
- b) Covalent Bonds--Involves the **sharing** of electrons!!
  - i) Occur b/w nonmetals and nonmetals
  - ii) Polar vs. nonpolar compounds
    - Polar**--NON-equal sharing of electrons
    - Non-Polar**--equal sharing of electrons
- c) Metallic Bonds--Involves a "sea of electrons"
  - i) Occur b/w metals and metals



Which type of bond would form in the following compounds:

Ionic 1. <sup>M N</sup> NaCl



Cov. 2. <sup>N N</sup> CO<sub>2</sub>



met. 3. <sup>M</sup> A gold bar



Cov 4. <sup>N N</sup> H<sub>2</sub>O

Cov 5. <sup>N N</sup> NO

Which type of bond would form in the following compounds:

Ionic 6. <sup>M N</sup>CaBr

Ionic 7. <sup>M N</sup>MgOH

Ionic 8. <sup>M N</sup>KCl

Covalent 9. <sup>NP</sup>SO<sub>4</sub>