

## Unit 10: Ch 19 – Acids/Bases & Conjugate Pairs

### PROPERTIES OF ACIDS:

- \_\_\_\_\_ compounds that act like \_\_\_\_\_ substances
- **ELETROLYTE** - \_\_\_\_\_ (*ionizes*) in water → Produces \_\_\_\_\_ in *solution*
- \_\_\_\_\_ taste
- Neutralized with \_\_\_\_\_
- 0-14 pH scale: \_\_\_\_\_

### PROPERTIES OF BASES:

- \_\_\_\_\_ compounds
- **ELETROLYTE** - \_\_\_\_\_ (*ionizes*) in water → Produces \_\_\_\_\_ in *solution*
- \_\_\_\_\_ taste ; \_\_\_\_\_ feel
- Neutralized with \_\_\_\_\_
- 0-14 pH scale: \_\_\_\_\_

### IONS IN SOLUTION:

- Relative \_\_\_\_\_ of \_\_\_\_\_ and \_\_\_\_\_ *ions* determine its \_\_\_\_\_.
  - \_\_\_\_\_ = More \_\_\_\_\_ than OH<sup>-</sup> ; \_\_\_\_\_ = More \_\_\_\_\_ than H<sup>+</sup>

### ACID/BASE MODELS:

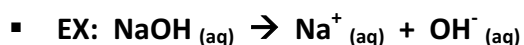
- #1. **LEWIS A/B:**
  - **ACID:** \_\_\_\_\_ an \_\_\_\_\_ to form covalent bonds.
  - **BASE:** \_\_\_\_\_ an \_\_\_\_\_ to form covalent bonds.
    - EX: Which reactant is the Lewis Acid and Lewis Base in the following reaction:
      - $\text{BF}_3 + \text{N}(\text{CH}_3)_3 \rightarrow \text{BF}_3\text{N}(\text{CH}_3)_3$ 
        - \_\_\_\_\_ = Lewis \_\_\_\_\_ → \_\_\_\_\_ electron pair **from** N(CH<sub>3</sub>)<sub>3</sub> .
        - \_\_\_\_\_ = Lewis \_\_\_\_\_ → \_\_\_\_\_ electron pair **to** BF<sub>3</sub> .

➤ #2. ARRHENIUS A/B:

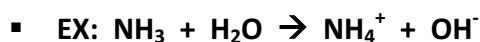
- **ACID:** Contains \_\_\_\_\_ **AND** \_\_\_\_\_ (ionizes) to produce \_\_\_\_\_ or \_\_\_\_\_ in \_\_\_\_\_ solution.



- **BASE:** Contains \_\_\_\_\_ **AND** \_\_\_\_\_ (ionizes) to produce \_\_\_\_\_ in \_\_\_\_\_ solution.



- **PROBLEM:** Some bases \_\_\_\_\_ contain \_\_\_\_\_ in its \_\_\_\_\_, yet still produces \_\_\_\_\_ ions in \_\_\_\_\_ solution.



➤ #3. BRONSTED-LOWRY A/B:

- **ACID:** \_\_\_\_\_ (proton) \_\_\_\_\_.

- **BASE:** \_\_\_\_\_ (proton) \_\_\_\_\_.

- **EX:**  $\text{H}_2\text{SO}_4 + \text{H}_2\text{O} \rightarrow \text{H}_3\text{O}^+ + \text{HSO}_4^-$

- When acid \_\_\_\_\_ in  $\text{H}_2\text{O}$ , it \_\_\_\_\_  $\text{H}^+$  (proton) **TO** \_\_\_\_\_ molecule.

- \_\_\_\_\_ then **ACTS** as a \_\_\_\_\_ and \_\_\_\_\_ the  $\text{H}^+$  (proton).

- **AMPHOTERIC** – Water acts as an \_\_\_\_\_ or \_\_\_\_\_ and \_\_\_\_\_ **OR** \_\_\_\_\_.

## CONJUGATE ACID/BASE PAIRS:

- \_\_\_\_\_ of the *donation* and *acceptance* of \_\_\_\_\_.
- \_\_\_\_\_ A/B = \_\_\_\_\_ A/B
  - A \_\_\_\_\_ that is \_\_\_\_\_ classified as \_\_\_\_\_ *IS*  
classified as \_\_\_\_\_.
  - **EX: NH<sub>3</sub>**
- **CONJUGATE ACID (CA):** *RESULT* of a **BASE** \_\_\_\_\_ H<sup>+</sup>
- **CONJUGATE BASE (CB):** *RESULT* of an **ACID** \_\_\_\_\_ H<sup>+</sup>

## PRACTICE:

