

Chapter 15: Acids and Bases

Part I

Georgia Gwinnett College

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(B. Shepler)

Acid and Base Definitions

1. Arrhenius Acids and Bases (1880's)

- Acid: a substance that produces H^+ ions in aqueous solution. Example: HCl
- Base: a substance that produces OH^- ions in aqueous solution. Example $NaOH$



**Arrhenius
1903
Nobel Prize**

2. Brønsted-Lowry Acids and Bases (1923)

- Acids: donate H^+ . Example HCl
- Bases: accept H^+ . Example NH_3
- Amphoteric: Can act as an acid or a base. Example: H_2O



Conjugate Acid-Base Pairs

- The concept of conjugate acid-base pairs is very important to the Bronsted-Lowry theory.
 - These are pairs of species that differ only in the presence or absence of a proton.



- In an Acid-Base reaction:
 - A base accepts a proton and becomes a conjugate acid
 - An acid donates a proton and becomes a conjugate base