

## 16.1 Acids & Bases

Acid

↳ substance when dissolved in water increases the  $[H^+]$

Base

↳ substance when dissolved in water increases the  $[OH^-]$

## 16.2 Brønsted-Lowry Acids & Bases

acid-base reactions involve transferring of  $H^+$  ions from one substance to the next.

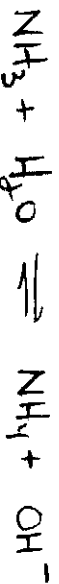
acid → donate a proton to another substance

base → substance that accepts a proton



↑  
Brønsted  
Lowry acid

↑  
Brønsted  
Lowry base



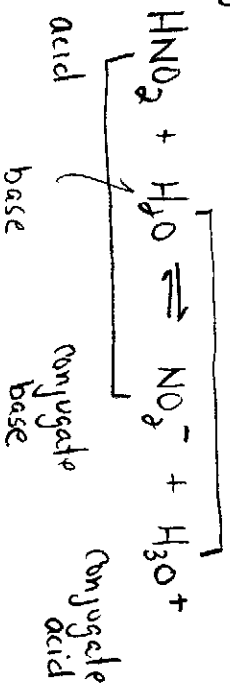
↑  
base

↑  
acid

amphiprotic

↳ substance capable of acting as either an acid or a base

conjugate acid-base pair



## Relative Strengths

1. Strong acids  $\rightarrow$  total dissociation  
 $\rightarrow$  conjugate base does not want to accept protons
2. Weak acid  $\rightarrow$  partial dissociation  
 $\rightarrow$  conjugate base = weak base
3. negligible acidity  
 $\rightarrow$  conjugate base = strong base

In every acid-base reaction, equilibrium favors transfer of the proton from the stronger acid to the stronger base to form the weaker acid and the weaker base.