

Pre-AP Chemistry I  
Unit #12—Acids and Bases

PART TWO

Label the acid, base, conjugate acid, and conjugate base based on the Bronsted-Lowry Acid-Base Model.

- $\text{HCl} + \text{H}_2\text{O} \rightarrow \text{H}_3\text{O}^+ + \text{Cl}^-$
- $\text{HCl} + \text{NaOH} \rightarrow \text{NaCl} + \text{H}_2\text{O}$
- $\text{H}_2\text{SO}_4 + \text{KOH} \rightarrow \text{K}_2\text{SO}_4 + \text{H}_2\text{O}$
- $\text{NH}_3 + \text{H}_2\text{O} \rightarrow \text{NH}_4^+ + \text{OH}^-$

Label the compound as an Arrhenius acid, Arrhenius Base, Bronsted-Lowry Acid, and/or Bronsted-Lowry Base

- HCl
- $\text{HNO}_3$
- NaOH
- $\text{Ca}(\text{OH})_2$
- $\text{HC}_2\text{H}_3\text{O}_2$
- $\text{NH}_3$
- $\text{Mg}(\text{OH})_2$

- LiOH
- HF

Strong Acids and Strong Bases

- Calculate the pH, pOH,  $[\text{H}^+]$ , and  $[\text{OH}^-]$  for the following acids or bases
  - 1.52 g of  $\text{HNO}_3$  in 575 mL of water (soln)
  - 0.127 M HCl
  - 0.012 M KOH
  - 1.565 g of NaOH in 365 mL of water (soln)