

# GENERAL CHEMISTRY

## STANDARD 12.1

**12.1: Classify a compound as an Arrhenius Acid or Base**

# DEFINITIONS

- **Arrhenius Acid:** Any substance that dissociates in water to yield hydrogen ions ( $\text{H}^+$ )
- **Arrhenius Base:** Any substance that dissociates in water to yield hydroxide ions ( $\text{OH}^-$ )

# EXAMPLES

- Examples of Arrhenius Acids:
  - HCl
  - $\text{H}_2\text{SO}_4$
  - $\text{HNO}_3$
  - HBr
- Examples of Arrhenius Bases:
  - NaOH
  - LiOH
  - $\text{Ca}(\text{OH})_2$

# TRY IT YOURSELF

- Identify the following compounds as Arrhenius Acids or Arrhenius Bases:
  - $\text{Al(OH)}_3$
  - $\text{KOH}$
  - $\text{HNO}_3$
  - $\text{HBr}$
  - $\text{Mg(OH)}_2$
  - $\text{HNO}_3$
  - $\text{HI}$

# TRY IT YOURSELF SOLUTIONS

- Identify the following compounds as Arrhenius Acids or Arrhenius Bases:

• $\text{Al}(\text{OH})_3$	<b>Arrhenius Base</b>
• $\text{KOH}$	<b>Arrhenius Base</b>
• $\text{HNO}_3$	<b>Arrhenius Acid</b>
• $\text{HBr}$	<b>Arrhenius Acid</b>
• $\text{Mg}(\text{OH})_2$	<b>Arrhenius Base</b>
• $\text{HNO}_3$	<b>Arrhenius Acid</b>
• $\text{HI}$	<b>Arrhenius Acid</b>