

Acids and Bases

Properties of Acids and Bases

- Acids
 - Taste sour
 - Corrode metal
- “Familiar” acids:
 - Fruit juice
 - Carbonated beverages
 - Some insects scare predators with acids
 - In car batteries
- Bases
 - Taste bitter
 - Feel slippery
- “Familiar” bases:
 - Most soaps, drain and window cleaners
 - Quinine
 - Lidocaine

Other Common Acids

- Hydrochloric Acid
 - HCl
- Sulfuric Acid
 - H_2SO_4
- Nitric Acid
 - HNO_3

Other Common Bases

- Sodium Hydroxide (Lye)
 - NaOH
- Calcium Hydroxide
 - Ca(OH)₂
- Ammonium Hydroxide
 - NH₄OH

Indicators

- Indicators allow us to determine whether a substance is an acid or a base.

Common Indicators

- Litmus
 - Acids turn blue litmus red
 - Bases turn red litmus blue
- Phenolphthalein
 - Clear in acid
 - Turns pink in a base
- Bromthymol Blue
 - Turns yellow in acid
 - Blue in a base

Universal Indicator

- A universal indicator is a solution of a number of different indicators.
- Can be used to tell how acidic or basic a substance is.

pH

- The pH scale measures how strong an acid or a base is.
- The scale goes from 0 – 14.
- Acids have a $\text{pH} < 7$
- Bases have a $\text{pH} > 7$
- A neutral substance (neither an acid nor base) has a pH of 7.


