

## 24-4 Strength of Acids and Bases (771-774)

Sulfuric acid used in car batteries can burn your skin, yet you can drink citric acid in OJ

Thus, have strong acids and weak acids.

**Strong Acid:** acid in which all the acid molecules dissociate into ions when dissolved in water

**Weak Acid:** acid in which only a small fraction of acid molecules dissociate into ions when dissolved in water

Also have ~~strong and weak~~ bases.

**Strong Base:** dissociates completely into ions when dissolved in water

**Weak Base:** does not dissociate into ions completely when dissolved in water

## Page 772 Strength vs Concentration

What is used to classify acids and bases? *strength*

Strong acids and bases dissociate *completely*

Weak acids and bases *dissociate* *breakdown* *partly*

Concentration: *amount of substance*

pH: measure of concentration of  $H^+$  ions in a solution

To indicate pH -- scale from 0 to 14

pH 0-6.9 -- acidic  
(~~Lower the value, stronger the acid~~, higher  $H^+$  concentration)

pH 7.1-14 -- basic  
(~~Higher the value, stronger the base~~, higher  $OH^-$  concentration)

~~pH of exactly 7~~ --  $H^+$  ions equals  $OH^-$  in concentration

~~Neutral~~ -- pure water



1. pH scale from 0 to 14
2. Circle and label neutral pH
3. Use arrows to show which direction indicates more acidic and which directions indicators more basic.
4. Circle and label pH level with highest concentration of  $H^+$  ions and pH level with highest concentration of  $OH^-$  ions

pH Scale: how much  $H^+$  is in a solution

Determine pH -- use indicator paper  
-Compare color on indicator to chart

