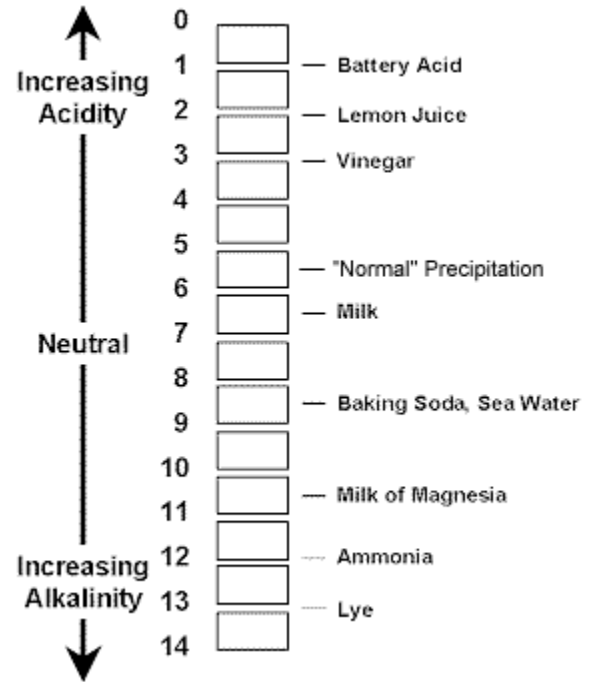


Measuring Acids & Bases

- The strength of Acids and Bases is measured using a special scale called the “pH Scale”
- pH stands for “percent of Hydronium ions”

- pH measures how many H⁺ and OH⁻ ions are in a solution
 - Lots of H⁺ makes a concentrated acid
 - Lots of OH⁻ makes a concentrated base

- pH is measured using the numbers 0-14
 - Substances with a pH of 0-6 are acids
 - More H⁺ ions than OH⁻ ions
 - The strongest acids have a pH of 0 and can cause bad burns
 - Substances with a pH of 7 are neutral
 - Number of H⁺ and OH⁻ ions are equal
 - Substances with a pH of 8-14 are bases
 - More OH⁻ ions than H⁺ ions
 - The strongest bases have a pH of 14 and can cause bad burns



- Indicators
 - An indicator is a substance that changes color as the pH changes
 - Litmus paper is a common indicator that comes in 2 colors:
 - Red
 - Turns blue when placed in a base
 - Stays red when placed in an acid
 - Stays red when placed in a neutral solution
 - Blue
 - Turns red when placed in an acid
 - Stays blue when placed in a base
 - Stays blue when placed in a neutral solution
- Strong and weak acids and bases
 - A strong acid or base will have ALL of its H⁺ or OH⁻ ions go into a solution
 - A weak acid or base will only have some of its H⁺ or OH⁻ ions go into solution
 - The more ions go into the solution the stronger the acid or base