



What is an acid?

- An acid is a solution that has an excess of hydrogen (H^+) ions. It comes from the Latin word acidus that means "sharp" or "sour".
- The more H^+ ions, the more acidic the solution.



Properties of an Acid



- Tastes Sour
- Corrosive, which means they break down certain substances
- Many acids can corrode fabric, skin, and paper
- Some acids react strongly with metals
- Turns blue litmus paper red

Uses of Acids

- Acetic Acid = vinegar
- Citric acid = lemons, limes, oranges. Used as a flavoring in many foods.
- Ascorbic acid = Vitamin C, which your body needs to function.
- Sulfuric acid - used in the production of fertilizers, steel, paints, and plastics
- Car batteries



What is a base?



- A base is a solution that has an excess of hydroxide (OH⁻) ions
- Another word for base is **alkali**
- Bases are substances that can accept hydrogen ions

Properties of a Base

- Feel Slippery
- Taste Bitter
- Can conduct electricity (alkaline batteries)
- Do not react with metals
- Turns **red** litmus paper **blue**



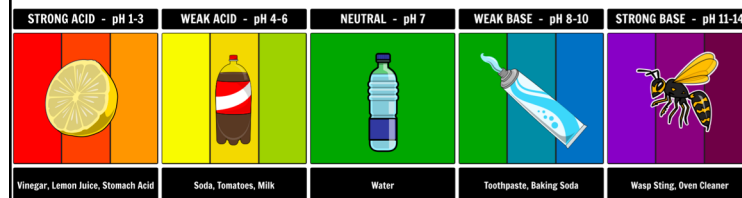
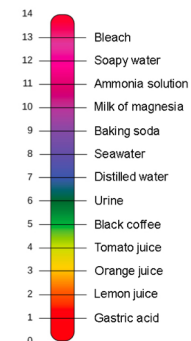
Uses of Bases



- Bases give soaps, ammonia, and many other cleaning products some of their useful properties
- The OH⁻ ions interact strongly with certain substances, such as dirt and grease
- Chalk and oven cleaner are examples of familiar products that contain bases
- Your blood is a basic solution

pH Scale

- **pH** is a measure of how acidic or basic a solution is
- The pH scale ranges from 0 to 14
- Acidic solutions have pH values below 7
- A solution with a pH of 0 is very acidic
- A solution with a pH of 7 is neutral
- Pure water has a pH of 7
- Basic solutions have pH values above 7



pH Scale

- A change of 1 pH unit represents a **tenfold** change in the acidity of the solution.
- For example, if one solution has a pH of 1 and a second solution has a pH of 2, the first solution is not twice as acidic as the second—it is ten times more acidic.

