

Acids, Bases and Salts

Directions:

- *Please review the material below related to acids, bases and salts.
- *Create Cornell notes which include the definition for each substance along with its unique characteristics and common examples.
- *When done, begin working on the Acid and Base Advertisement Project by conducting research on your assigned substance.

Acids, Bases, and Salts

Acids are one of the most common groups of chemical substances. Acids are sour tasting, extremely corrosive, good conductors of electricity, and will turn litmus paper red. They also react with metals, sometimes violently, to liberate explosive hydrogen gas. All acids contain a **hydrogen ion (H⁺)** that goes into solution when mixed with water. The hydrogen ion (a single positive proton) can "tear" electrons from other chemical substances. This accounts for an acid's "biting" physical and "reactive" chemical properties. Compare the chemical formulas and names of the following common acids: hydrochloric acid (HCl); sulfuric acid (H₂SO₄); carbonic acid (H₂CO₃); nitric acid (HNO₃).

Bases are also very common chemical substances. Bases are bitter tasting, extremely caustic, good conductors of electricity, and will turn litmus paper blue. All bases contain a **hydroxide ion (OH⁻)** that goes into solution when mixed with water. Because of its negative charge, the hydroxide ion attracts positive ions of any kind. This accounts for the "irritating" physical and "reactive" chemical properties of bases. Compare the chemical formulas and names of the following list of common bases: sodium hydroxide (NaOH); magnesium hydroxide [Mg(OH)₂]; ammonium hydroxide (NH₄OH); potassium hydroxide (KOH).

Salts are the products of **acid-base reactions**. Mixing an acid and a base produces a salt and water. The kind of salt produced depends upon the particular acid and base used in the reaction. Here are the formulas and names of the several common salts: sodium chloride (NaCl); potassium nitrate (KNO₃); magnesium sulfate (MgSO₄); calcium carbonate (CaCO₃).