

Acid-Base Theories

The Arrhenius Theory of Acids and Bases

Acid – as any substance that liberates or yields _____ or protons in water.

This process involving the breakdown of a substance into ions is known as _____.

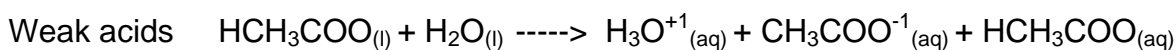
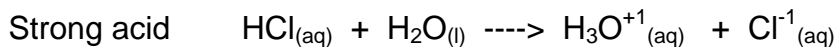
An Arrhenius base – is a substance that _____ in water to produce hydroxide ions, OH⁻. Two examples of strong, or almost completely dissociated bases are potassium hydroxide, _____, and sodium hydroxide, _____ or lye.

Most solutions formed by the reaction of polar molecular compounds with water are observed to have either acidic or basic properties.

Properties	Acids	Bases
Example:		
Taste		
Texture		
Conductivity		
Corrosion		
Chemical reaction with metals		
Chemical reaction with each other		
Solubility		
pH		

Strong versus Weak

Strong acids are ones that dissolve completely into their ions. HCl, and HNO₃ are strong acids. Weak acids are usually organic in nature like oxalic acid, citric acid, ascorbic acid and vinegar, etc.



_____ - For every 1000 molecules of vinegar dissolved in water only 18 actually break down into ions. The rest remain as _____ molecules. This means that the number of hydrogen ions released into the water is much _____.

Concentrated versus Dilute

Concentrated and dilute are _____ terms about _____. Dilute simply means that there is _____ solute dissolved per unit volume than a concentrated solution. We can say things like this solution is more or less concentrated than some other solution.

Remember from the last unit that concentration is measured as:

concentration =

Usually the concentration in chemistry is _____ but any units can be used like g/100 mL, ppm etc.