

COMPARISON OF ACIDS AND BASES

ACIDS	BASES
<i>Arrhenius definition: any substance, when dissolved in water, increases the concentration of hydronium ion</i> H_3O^+ (H^+)	<i>Arrhenius definition: any substance, when dissolved in water, increases the concentration of hydroxide ion</i> OH^-
Strong Acids dissociate nearly 100% in solution (→)	Strong bases dissociate nearly 100% in solution (→)
Strong Acids are strong electrolytes-conduct electricity strongly in solution	Strong bases are strong electrolytes-conduct electricity strongly in solution
Common strong acids are: H₂SO₄ , HNO₃ , HClO ₄ , HClO ₃ , HCl , HBr, HI, HIO ₄ Consider all others to be weak	Common strong bases are: (ionic bases-metal hydroxides) NaOH , LiOH , KOH , Ca(OH)₂ , Sr(OH)₂ , Ba(OH)₂
Weak Acids only partially ionize (dissociate) in water	Weak bases only partially ionize (dissociate) in water
Weak acids are weak electrolytes	Weak bases are weak electrolytes
A common weak acid is HC₂H₃O₂ (acetic acid) (↔)	A common weak base is NH₃ (ammonia) (↔)
Any reaction of an acid with a base produces water and a salt (an ionic compound)	Any reaction of a base with an acid produces water and a salt (an ionic compound)
The reaction of a strong acid and a strong base always has the same net ionic equation: (<i>neutralization reaction</i>) $H^+_{(aq)} + OH^-_{(aq)} \rightarrow H_2O$	The reaction of a strong acid and a strong base always has the same net ionic equation: (<i>neutralization reaction</i>) $H^+_{(aq)} + OH^-_{(aq)} \rightarrow H_2O$
Acidic anhydrides are substances that form acids when it reacts with water (ex: SO₃ + H ₂ O → H ₂ SO ₄)	Basic anhydrides are substances that form bases when it reacts with water (ex: Na₂O + H ₂ O → 2 Na ⁺ _(aq) + OH ⁻ _(aq))