Acids and Bases:

Where have we heard these words before?

Acids:

-Compounds that dissolve in water to produce H ions.

Acid -------> H + other products.

Example: HCL-----> H + Cl

-conduct electricity

-taste sour (if safe to taste)

-strong acids can cause severe burns.

Examples: citrus fuit, vingear, pop, stomach acid, batter acid, lactic acid in muscles.

Naming Acids:

1. Look at the anion in the formula.

*anion = - charge

If the anion is a **single ion**, (Cl, F, Br) the acid name will begin with **hydro** and end with **-ic acid.**

example: HCl = hydrochloric acid.

If the anion is **polyatomic**, we **lose the prefix hydro.**

For the **polyatomic ions that end in "ate"**, use the **root** of the polyatomic ion and follow it with the ending **-ic acid**

example: HNO_3

this is hydrogen and nitrate

name this as "nitric acid"

For the **polyatomic ions that end in "ite"** use the **root** of the polyatomic ion and follow it with the ending **-ous acid.**

example: HNO_2

this is hydrogen and nitrite

name this as "nitrous acid"

Bases:

-Compounds that dissolve in water to produce Hydroxide ions. (hydroxide is OH^-)

compound-------> product + OH-

Example: NaOH-----> Na + OH-

-conduct electricity

-taste bitter

-feel slippery

Examples: soap, toothpaste, ammonia, tums, oven cleaner, draino

Naming Bases:

same rules as naming ionic/ covalent depending on the elements in the base.

Practice Naming Acids and Bases:

-worksheet

pH:

Both acids and bases are clear and colorless. Therefore it is important to have indicators that change color as the concentration of H+ changes.

indicator: a substance that is used to safely determine if a compound is acidic or basic.

Types of indicators:

1. Litmus paper

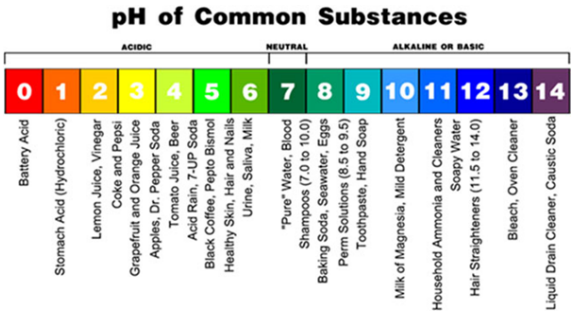
-a dye obtained from lichens that is put into paper.

-blue paper turns red if there is an acid present

-red paper turns blue if there is a base present

2. pH paper

-measures the strength of the acid or base.



3. Synthetic indicators

indicates acid or base by color change (similar to litmus papers) however it contains manufactured dyes rather than plant extract.

Indicator Acids Bases

<u>Bromothymol Blue</u>

acids: turns yellow

bases: stays blue

<u>Phenolphthalein</u>

acids: stays colorless

bases: turns pink