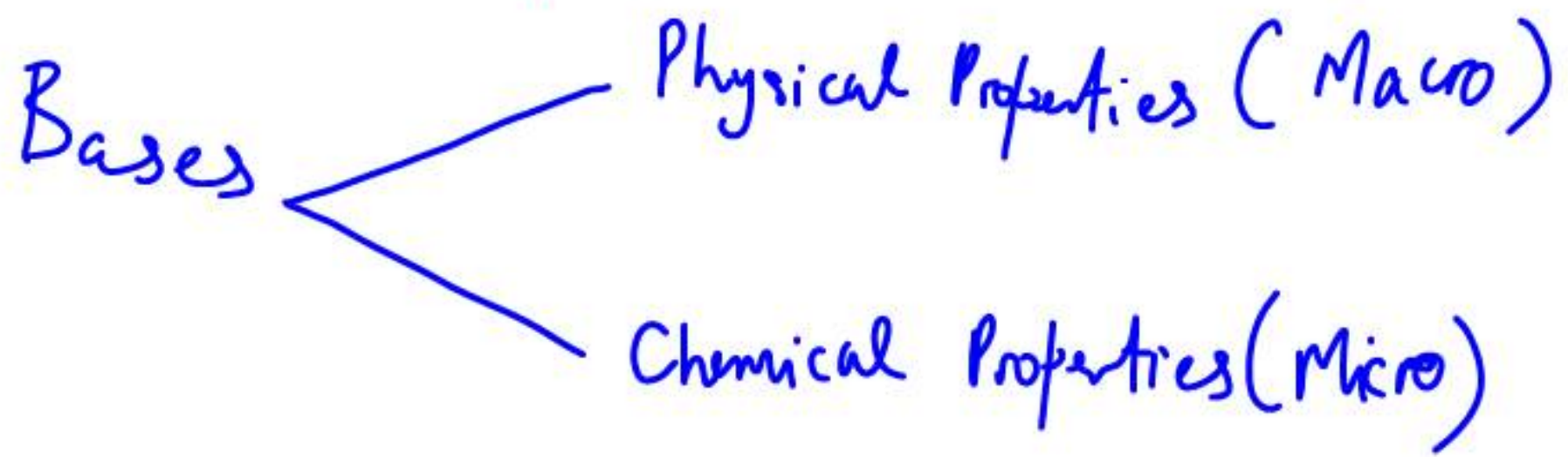
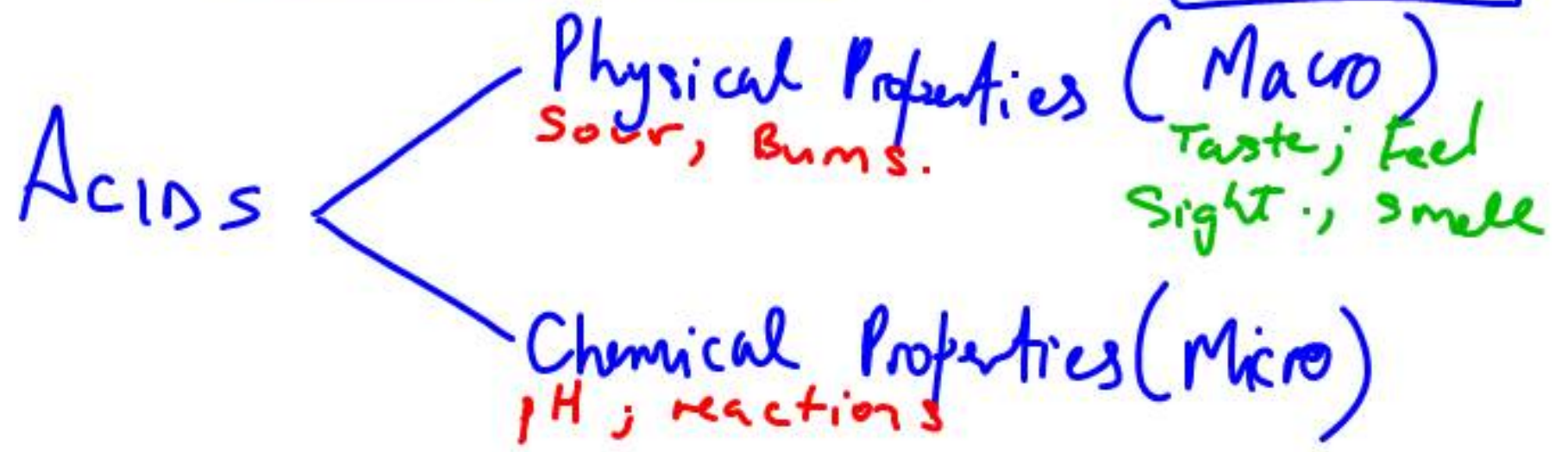


P3.13

ACIDS AND BASES:

9C, 9B

5 Senses



Acids dissolve in water and release
Hydrogen ions ($H^+(aq)$) pH

∴ An acid can be detected by the presence
of Hydrogen in the front of the formula

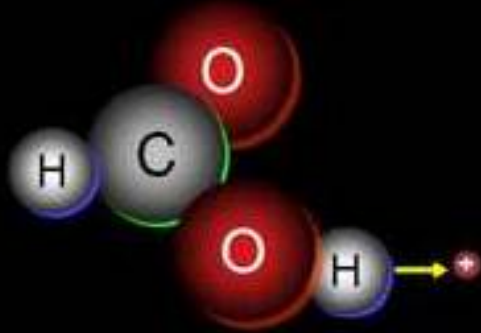
e.g. $HCl \rightarrow$ Hydrochloric Acid

$H_2SO_4 \rightarrow$ Sulphuric Acid

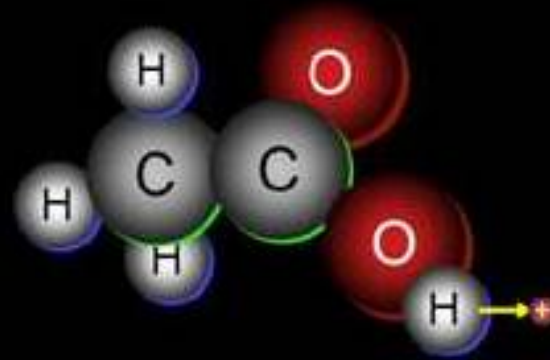
$HNO_3 \rightarrow$ Nitric Acid

$HCOOH \rightarrow$ Methanoic Acid [Antis]

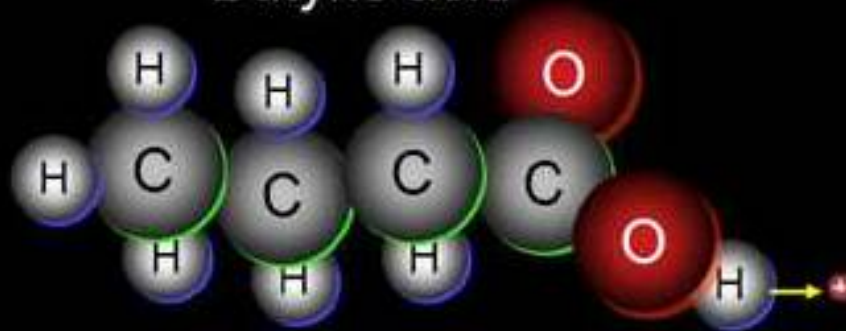
Formic acid (ant bite venom)



Acetic acid (vinegar)



Butyric acid

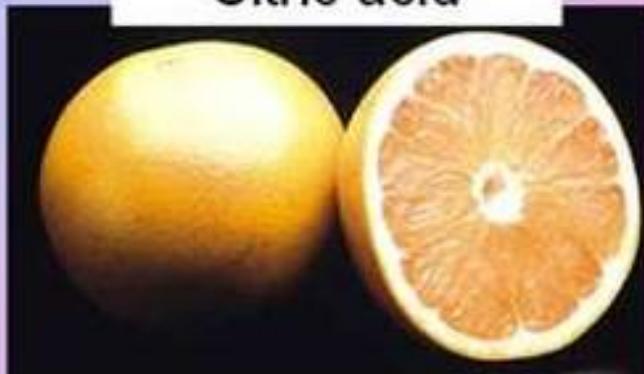


ORGANIC ACIDS

Not as strong as inorganic acids



Citric acid



Ethanoic Acid

Acetic acid
(vinegar)



Formic acid

Methanoic Acid

Bases — When they dissolve in water they release hydroxide ions (OH^-)

Bases that dissolve in water are referred to as alkali.

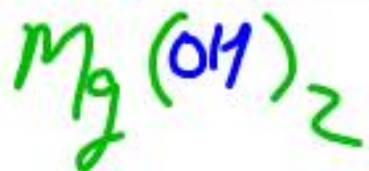
e.g. of Bases —



— Sodium hydroxide



— Calcium hydroxide



— Magnesium hydroxide.



W
a
NaOH

ng
i
Strong

Base

A base can neutralize an acid.

INDICATOR :

A chemical substance which reveals the acidity or basicity of a substance by changing to characteristic colours.

e.g. LITMUS
Bromothymol Blue
phenolphthaleine
METHYL Orange

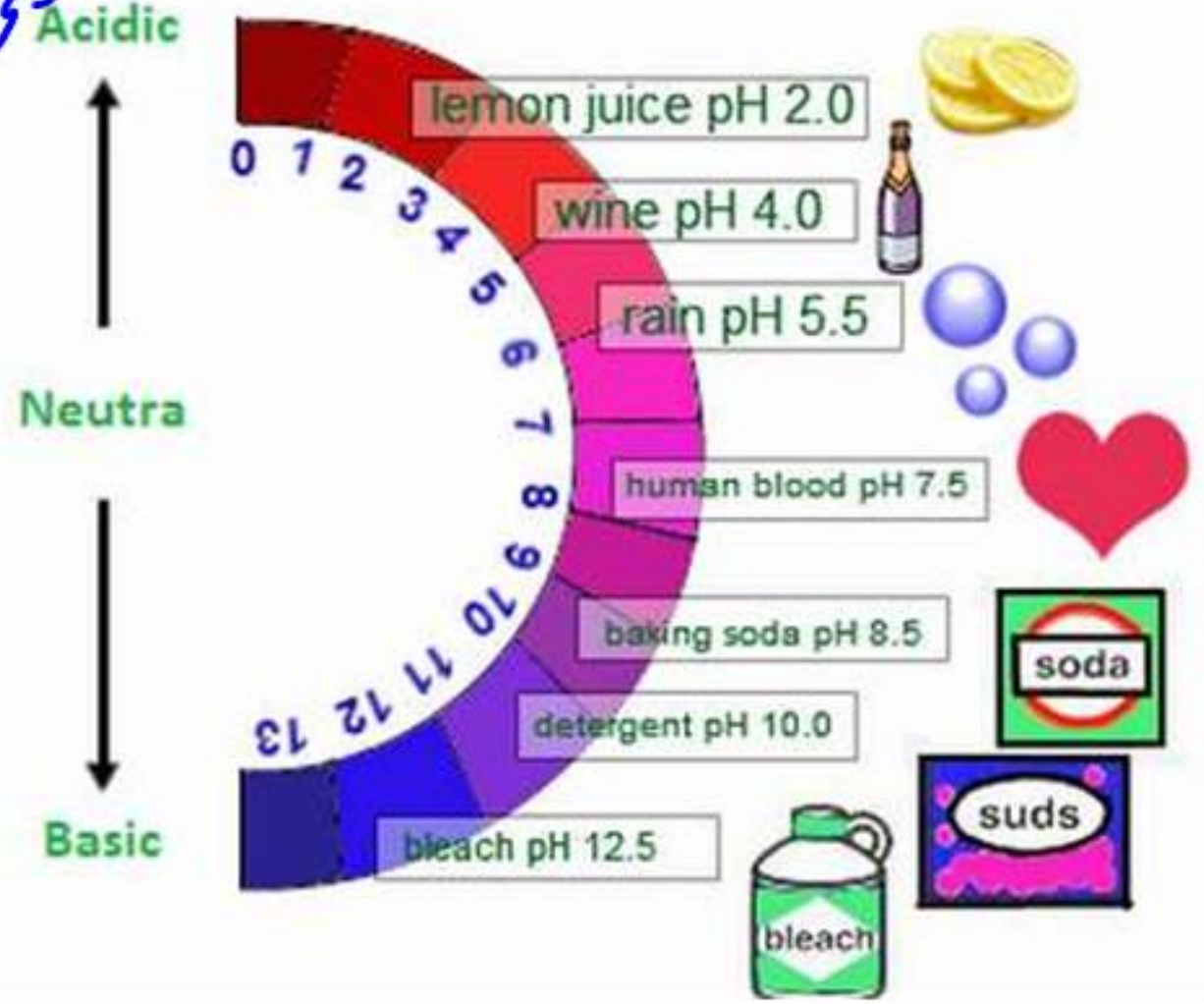
Universal Indicator

Indicator	pH range over which colour change occurs	colour of acid form	colour of conjugate base form
methyl orange	2,1 - 4,4	orange	yellow
methyl red	4,2 - 6,2	red	yellow
bromothymol blue	6,0 - 7,8	yellow	blue
phenolphthalein	8,3 - 10,0	colourless	pink
alizarin yellow	10,1 - 12,1	yellow	red

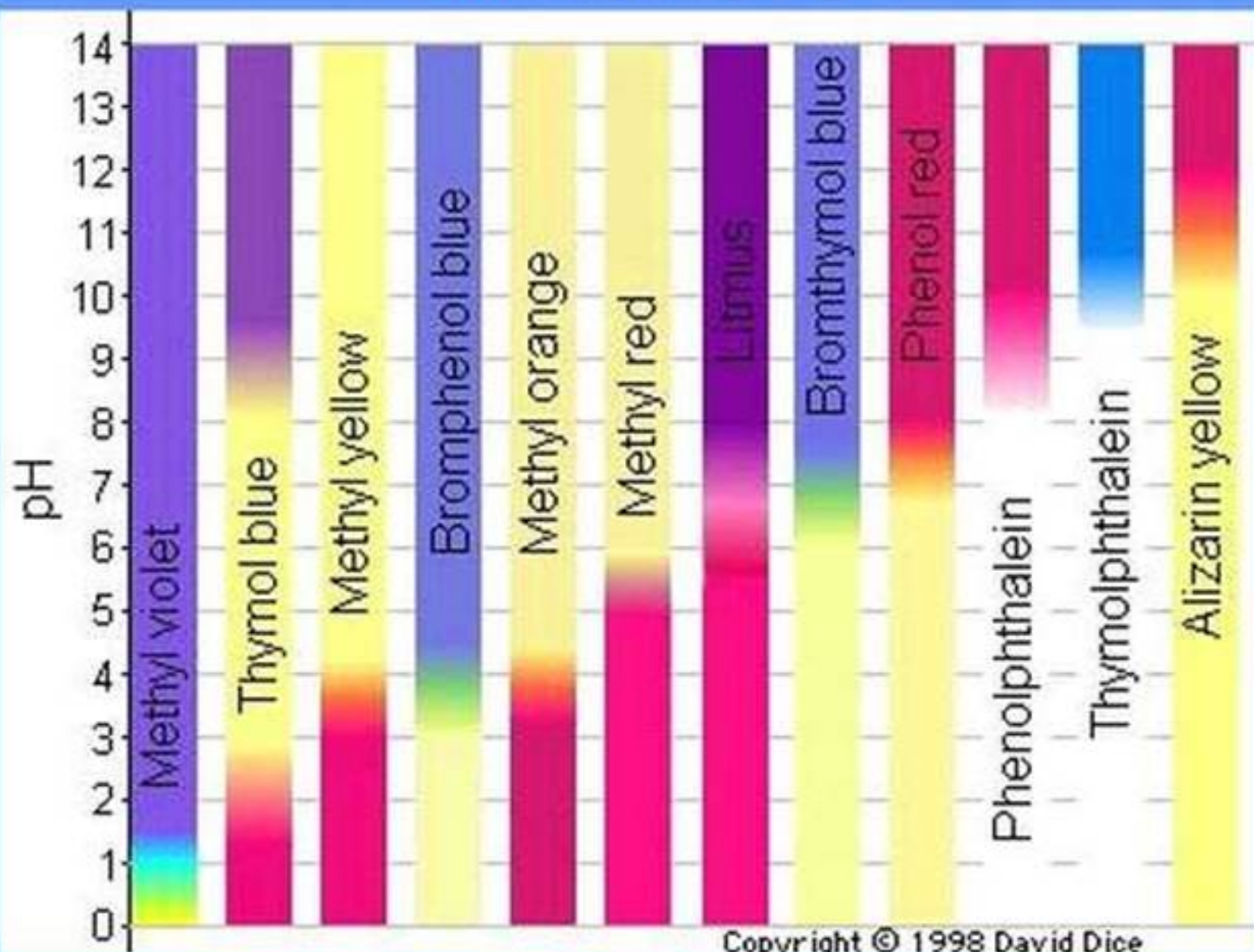
pH Scale : A scale that indicates the degree of Acidity of a substance.



Bee Stings -
Wasp Stings -
Acidic

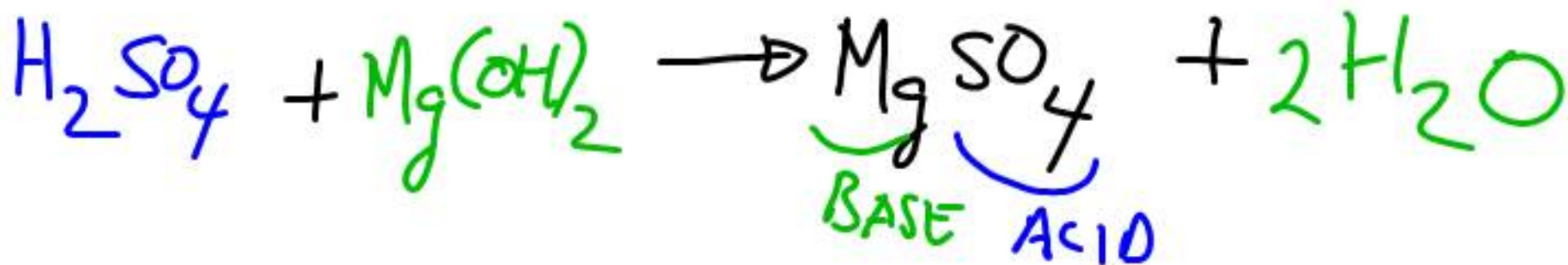
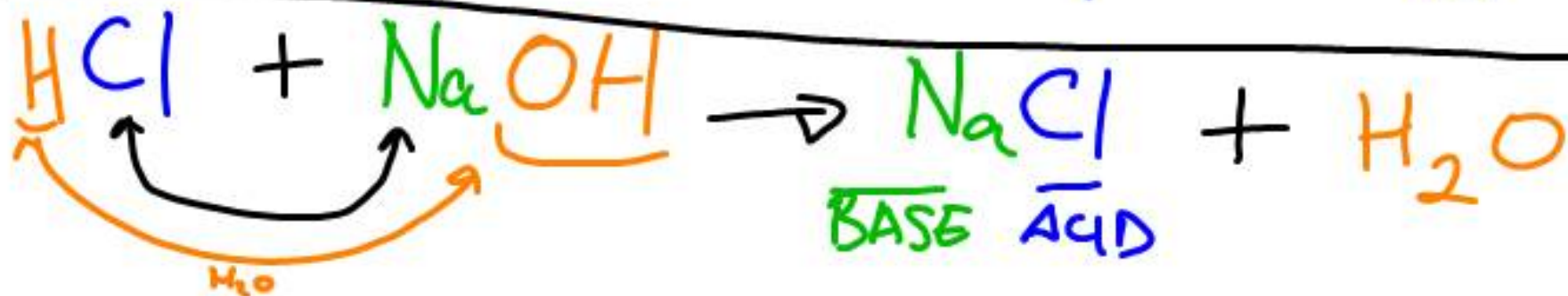


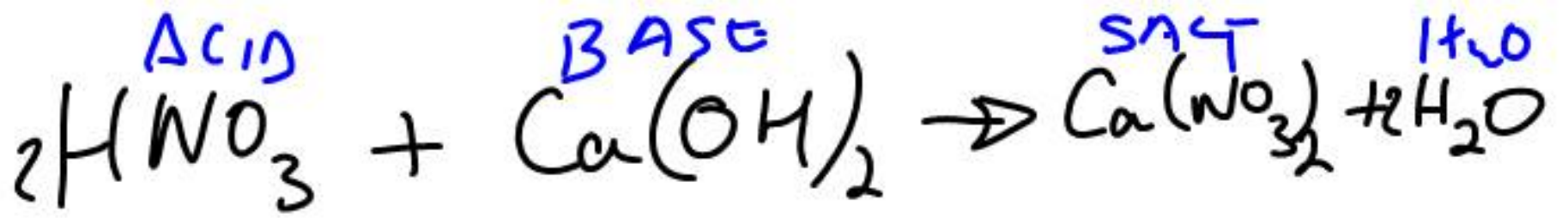
Common Indicators



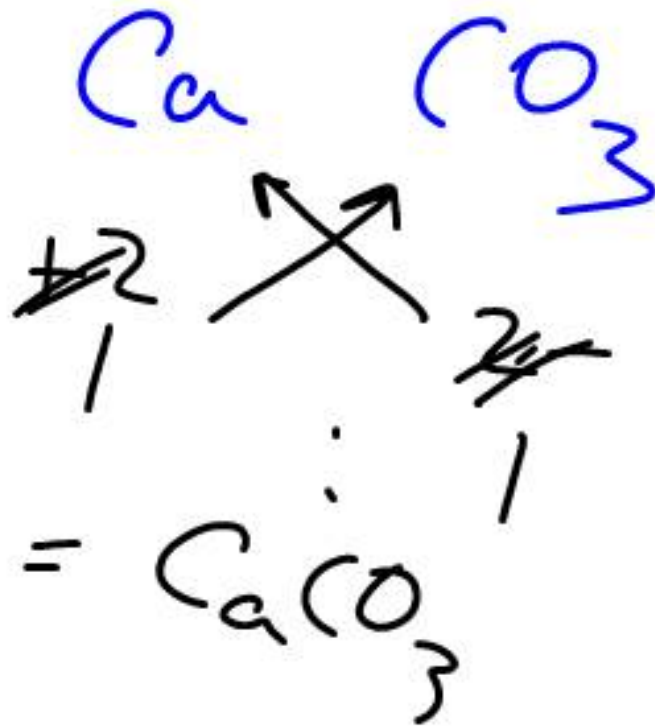
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ACID BASE REACTIONS } NEUTRALIZATION SALT FORMATION





Calcium Carbonate:



Sulphuric Acid reacts with Marble

Write a balanced equation indicating the products formed.

P 3:15 HW
3:44 QA.

P 3.15

- 1) Rock Salt Mined
Sea Water - Evaporated
Salt Pans - Evaporation

- 2) **SALARIVM - salt**
Payment in Salt to Roman Soldiers

3) Why salt is good for our bodies.

Component of Body Fluids (1%)-Blood and Ground Plasm

Maintenance of correct water balance

Regulates flow of blood

Heart Rhythm

Component of digestive juices

Component of stomach Acid

Functioning of nervous system

Role in muscle contraction

4) Causes high blood pressure

which leads to strokes and heart attacks

5)

Unrefined Flour

Fresh Fruit

Fresh Vegetables

Rice

White Meat

- ↳ Improves the taste of food.
- Mixed with gravel for harder road surfaces
 - melts snow
 - Prevents ice forming on roads.
 - Prepares skins for tanning of leather
 - fixes dyes in fabrics
 - manufacturing of soaps and water softeners.

7) People sweat a lot in hot environment.
Sweat contains salt.

Lots of salt lost.

must be replaced

for normal functioning of body processes
and maintenance of water balance.