

1. Chemistry Basics

النجم
□□

2. مجاني / موقع

مجانين
▶
yout

مسر رهنجی
K
Khososy.net

3. نظام الجدول -

جدول
مربعات

✓	✓
✓	✓

مشرف
موقع
yout

4. مواقع

✓ Quizzes
✓ أسئلة اختبار

5. مصادر الكتب

الأحد

Composition.

water

Molecule

Chemistry?

Element: \Rightarrow Modern Periodic Table
118 Element

Groups.

Periods.

Non Metal Gases

The Periodic Table of the Elements

alkali metals, alkaline earth metals, transition metals, lanthanoids, actinoids, metalloids, nonmetals, halogens, noble gases, unknown elements

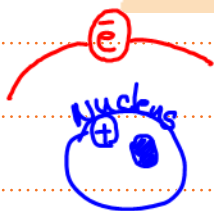
radioactive elements have masses in parentheses

electron configuration blocks

notes

- as of yet, elements 113-118 have no official name designated by the IUPAC.
- 1 kJ/mol = 98.485 eV
- all elements are implied to have an oxidation state of zero.

Atom

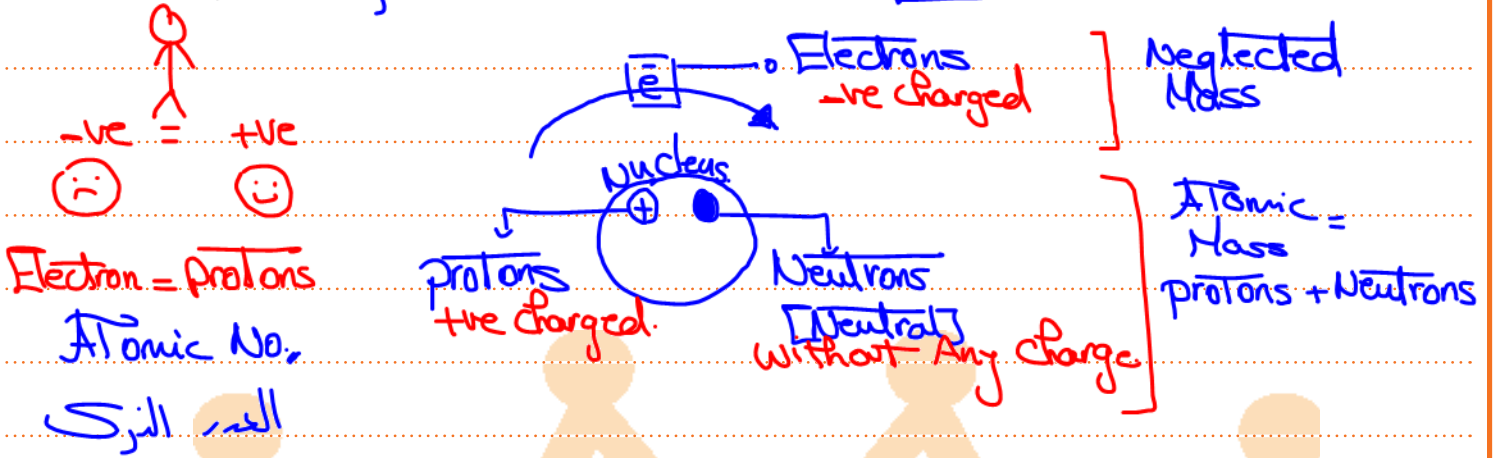


Element

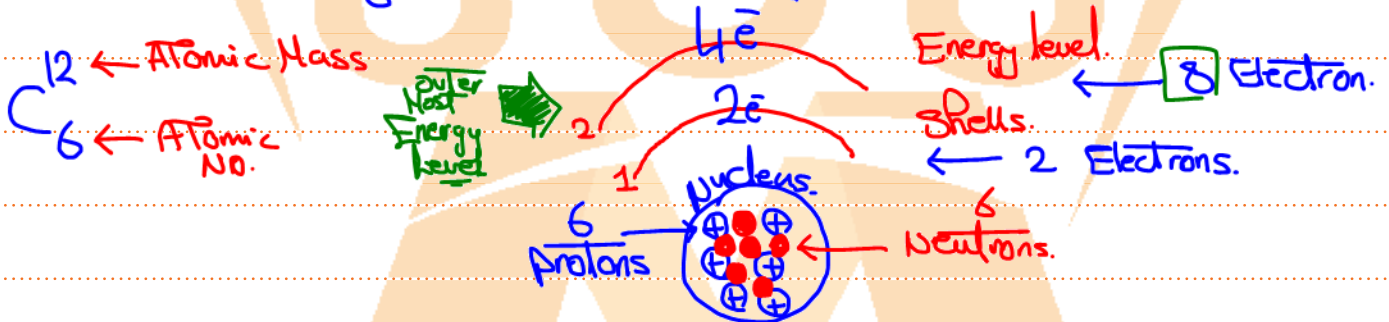
Pure



ATOM: ذرة Smallest unit. 



Each Atom has its own Atomic No.

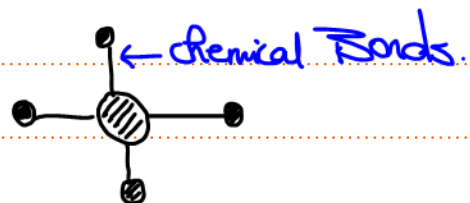


Atom unstable \rightarrow stable [outermost level filled by electrons].

Carbon needs 4 Electrons to be stable

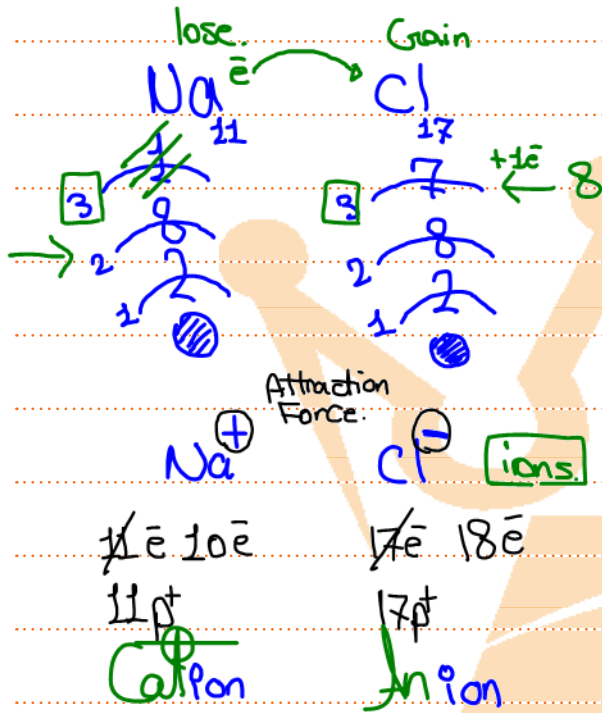
Octet RULE: \rightarrow outermost \Rightarrow Filled by 8 Electrons.
 Energy level

Atom unstable \rightarrow Molecule stable



كيمياويات Chemical Bonds

1] Ionic Bond:



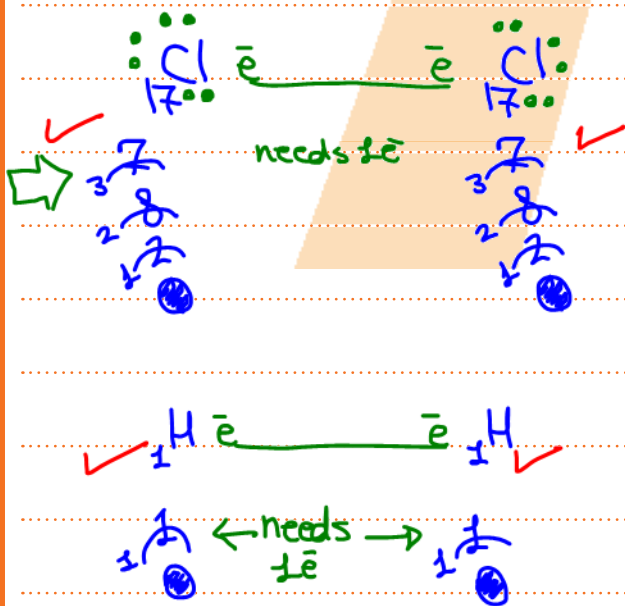
The Periodic Table of the Elements

Metals

Non Metal

Between Metal + Non Metal

2] Covalent Bond: sharing bond

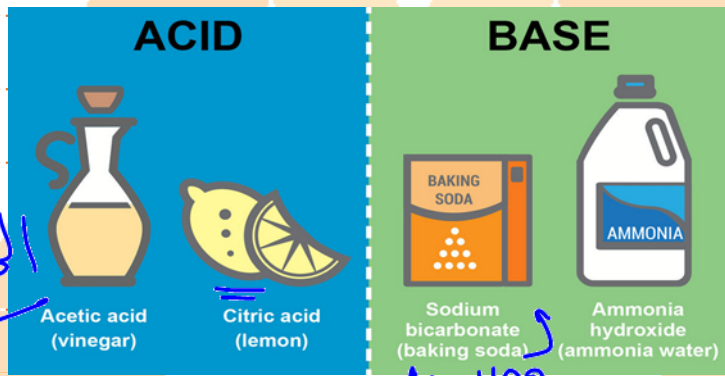
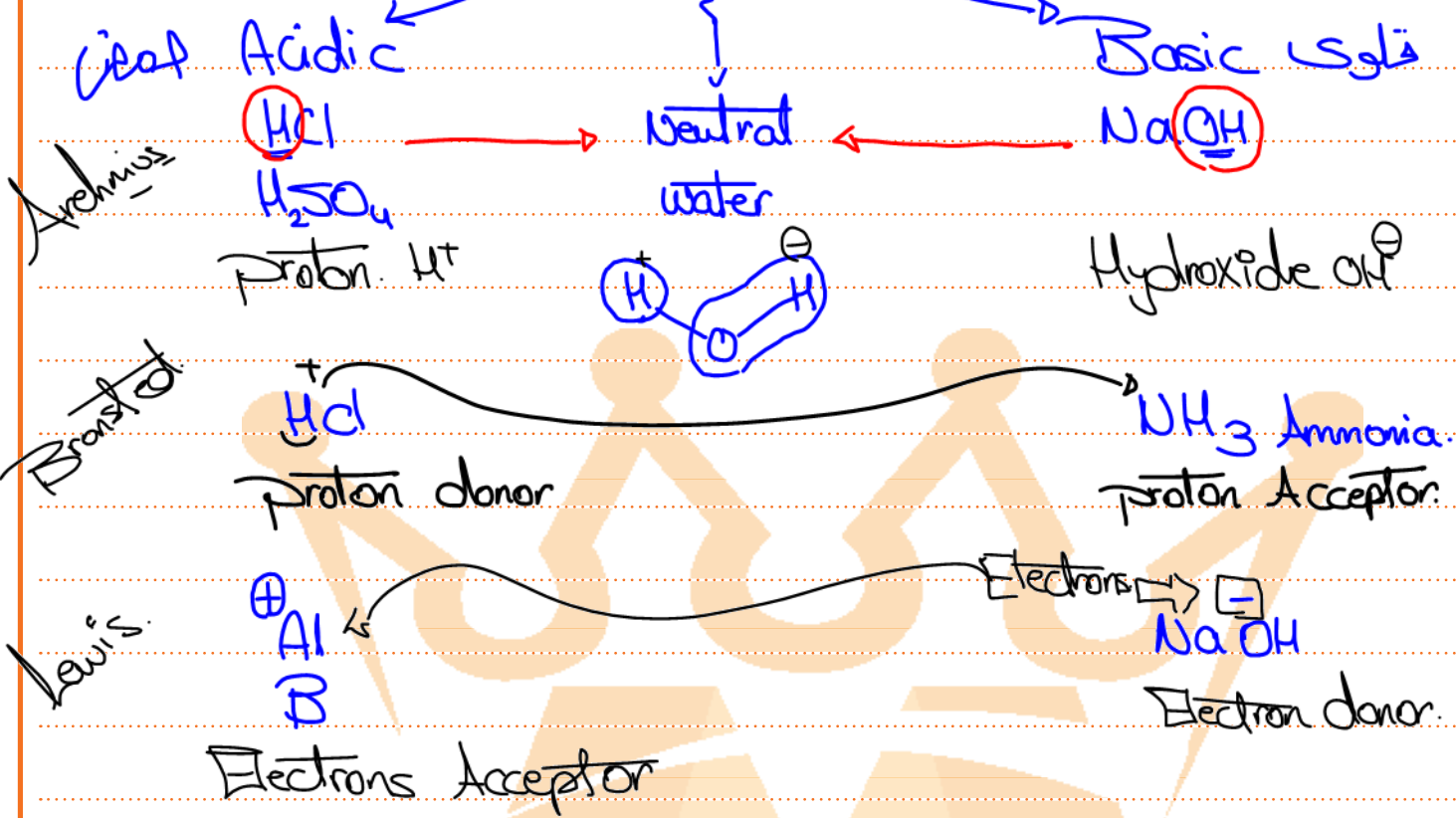


The Periodic Table of the Elements

Non Metals

Between 2 Non metal Atoms

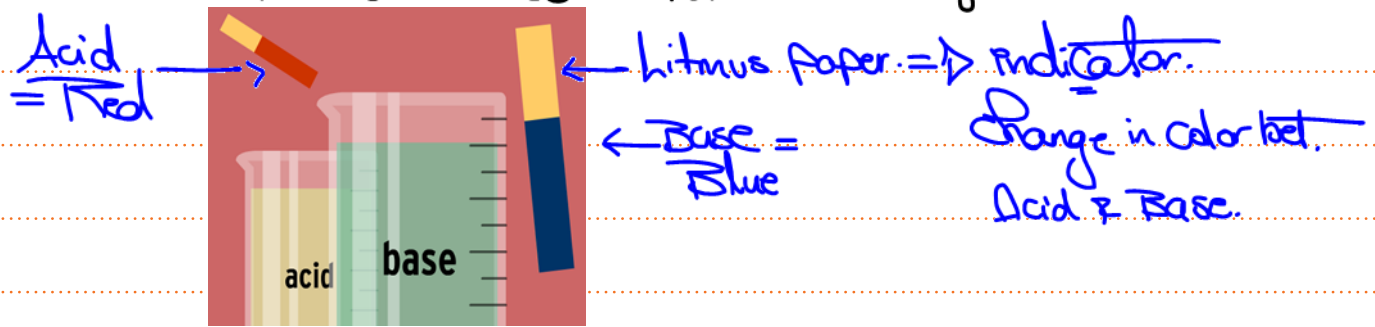
Substance



الحمض

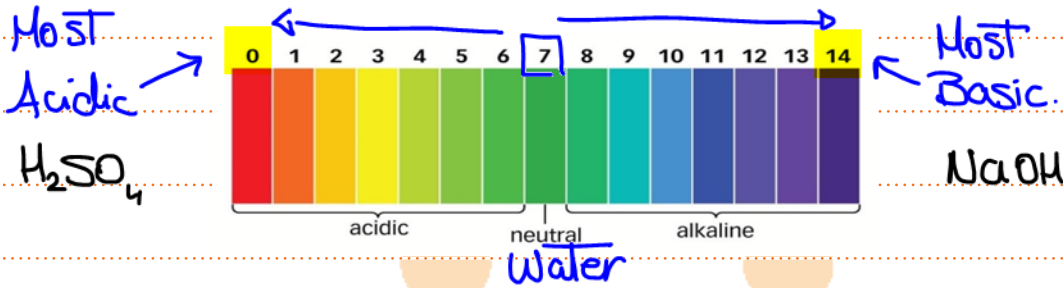
المواد القلوية

How To Know Acid From Base?

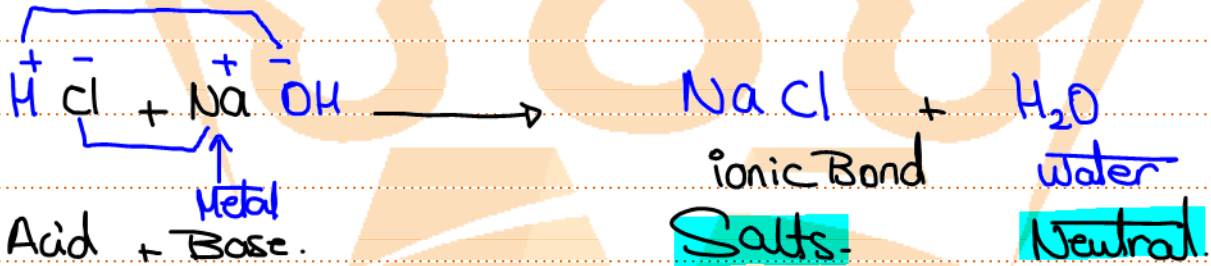


How To know strong Acid from weak Acid?

$$pH \Rightarrow -\log(H)$$



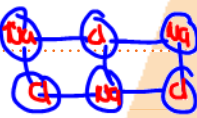
Neutralization Reaction:



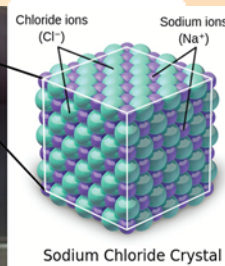
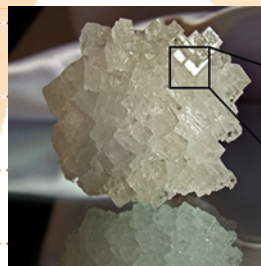
ionic
Lattice

Salts

Metal + Non metal



Crystal
Shape

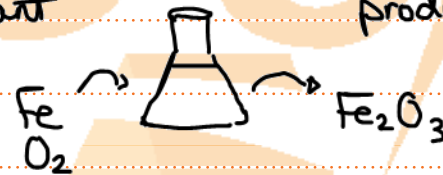
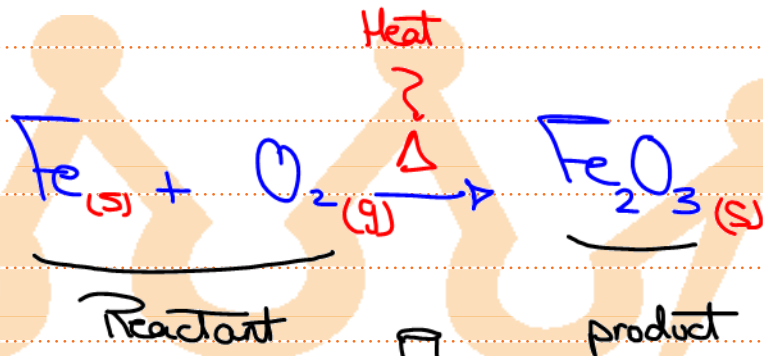


Chemical Reactions:

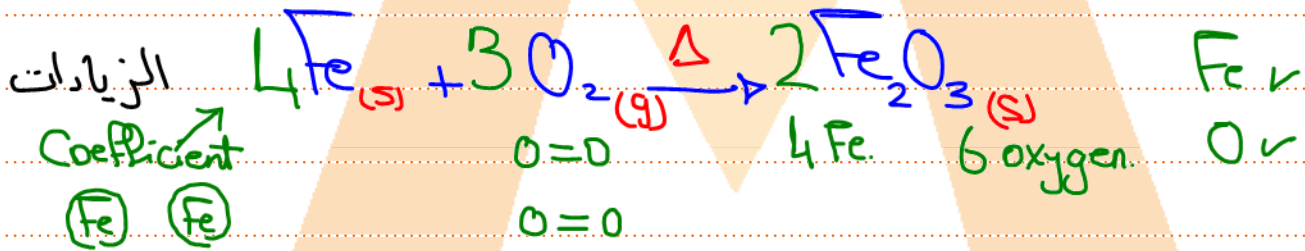


Reactants:?

- S Solid
- l liquid
- G Gas
- V Vapour
- Aq solution in water

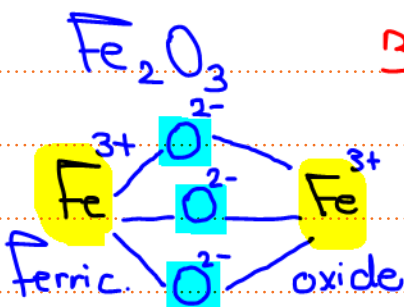


Balancing Equation !! Coefficient ثابتة



6 oxygen

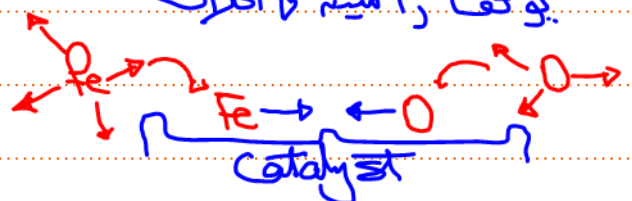
Condition of Reactions: Δ Heat



P Pressure

Ni Catalyst العامل الحفاز

يوفقا رأياً مع 6 الكلور



Mole: Amount of Any Substance Equivalent
 $6.02 \times 10^{23} = 12 \text{ g of Carbon.}$



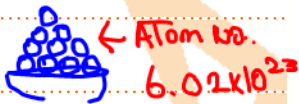
602,000,000,000,000,000,000 Avogadro's No. //

Dozen $\Rightarrow 12$

Ques

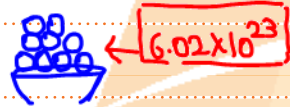
Mole Concept

Mole [C 12 gm



12g of Carbon.

16 gm



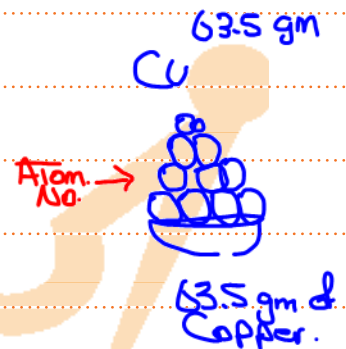
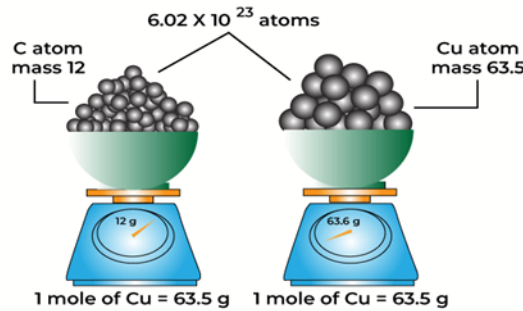
1 Mole of Oxygen Atom

6.02 x 10²³ Atoms.

O=O Oxygen Molecule

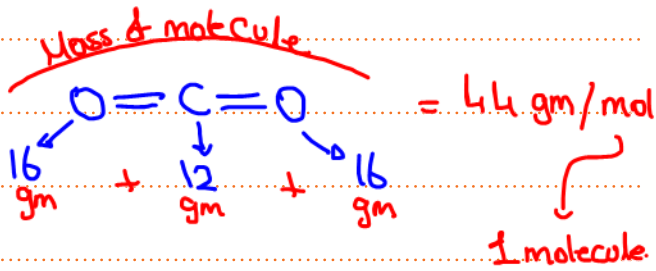
6.02 x 10²³ Molecule

$\hookrightarrow 2 \times 6.02 \times 10^{23}$ ATOMS.



Molar Mass

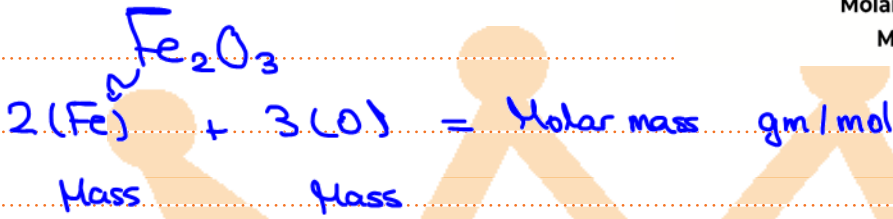
C_{12}^{6} ← Atomic Mass



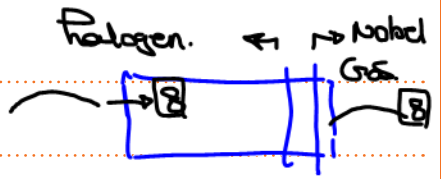
Molar Mass of CO₂



Molar Mass = 12.01 + 16.00 + 16.00
Molar Mass = 44.01 g/mol



Memorize these NOTES::



1 Mono Atomic ← **Atoms in periodic Table** → Diatomic 2

All
Zn Fe p-o

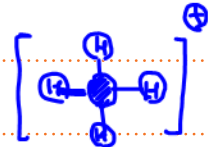
H Hydrogen
N O Nitrogen Oxygen
X Halogens
F Cl Br I
need electrons
Molecule

Cations
 Li^+ Lithium (lose 1e)
 Na^+ Sodium
 K^+ Potassium
 Ag^+ Silver
 Mg^{2+} Magnesium (lose 2es)
 Ca^{2+} Calcium
 Zn^{2+} Zinc
 Ba^{2+} Barium
 Al^{3+} Aluminium

Anions
 F^- Fluoride (7e)
 Cl^- Chloride
 Br^- Bromide
 I^- Iodide
 O^{2-} Oxide
 S^{2-} Sulphide (8e)
 N^{3-} Nitride (5e)
 P^{3-} Phosphide (8e)

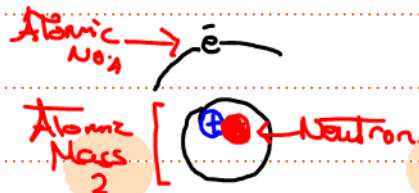
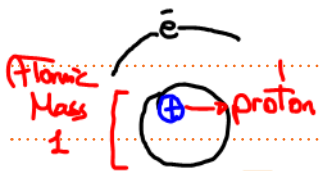
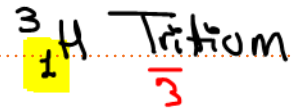
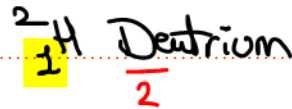
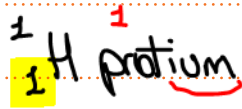
-ve atomic group
 OH^- Hydroxide (2e)
 NO_3^- Nitrate (ate)
 CH_3COO^- Acetate
 HCO_3^- Bicarbonate
 HSO_4^- Bisulphate
 NO_2^- Nitrite (ite)
 MnO_4^- Permanganate
 ClO_4^- Perchlorate
 SO_4^{2-} Sulphate (ate)
 CO_3^{2-} Carbonate
 CrO_4^{2-} Chromate
 $\text{Cr}_2\text{O}_7^{2-}$ dichromate
 SO_3^{2-} sulphate (ite)
 PO_4^{3-} phosphate

Fe^{3+} Ferric (ic)
 Fe^{2+} Ferrous (ous)
 Cu^+ Cuprous
 Cu^{2+} Cupric



+ve Atomic gp \Rightarrow NH_4^+ Ammonium

Equal. Isotopes } → Part. Place. H^1 ← Atomic No. 1



Definition: Same Element with Same Atomic No., But
different Atomic Mass due to difference in Neutrons
No.:

