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## مراجعة مهمة جداً للوحدة الأولى

موقع المناهج ← المناهج المصرية ← الصف الثالث الإعدادي ← كيمياء ← الفصل الثاني ← ملفات متنوعة ← الملف

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ملفات اكتب للمعلم اكتب للطالب الاختبارات الكترونية الاختبارات ا حلول اعروض بوربوينت أوراق عمل  
منهج انجليزي ملخصات وتقارير ا مذكرات وبنوك الامتحان النهائي للمدرس

المزيد من مادة  
كيمياء:

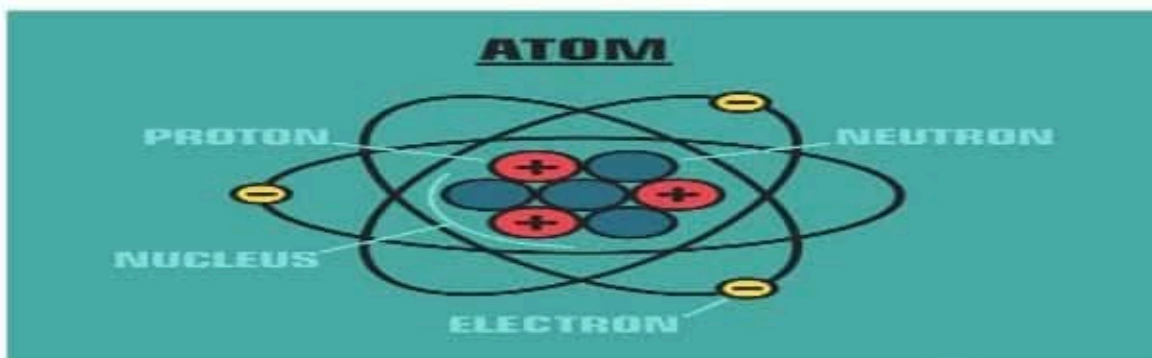
## التواصل الاجتماعي بحسب الصف الثالث الإعدادي



صفحة المناهج  
المصرية على  
فيسبوك

المزيد من الملفات بحسب الصف الثالث الإعدادي والمادة كيمياء في الفصل الثاني

## CHEMISTRY REVISION



<i>Hg</i>	<i>Ag</i>	<i>Fe</i>	<i>Na</i>	<i>K</i>
<i>Mercury</i>	<i>Silver</i>	<i>Iron</i>	<i>Sodium</i>	<i>Potassium</i>
H	He	Li	Ca	Mg
Hydrogen	Helium	Lithium	Calcium	Magnesium
Al	Zn	Cu	Au	O
Aluminium	Zinc	Copper	Gold	Oxygen
N	F	Cl	Br	I
Nitrogen	Fluorine	Chlorine	Bromine	Iodine
Ar	S	P	C	Si
Argon	Sulphur	Phosphorus	Carbon	Silicon

**The atom is electrically neutral**

**Number of negative Electrons = Number of positive protons**

<u>METALS</u>	<u>NON-METALS</u>
Their outer most energy level is less than 4 ( 1 , 2 or 3 electrons )	Their outer most energy level is more than 4 ( 5, 6 or 7 electrons )
All are solids except mercury (liquid)	All are solids or gaseous except bromine (liquid)
Have lustre	No lustre
Good conductors of heat & electricity	Bad conductors of heat & electricity (except graphite)
Malleable & ductile	Non Malleable & ductile (Brittle)
tend to lose electrons → Positive Ion	tend to gain electrons → Negative Ion

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## CHEMISTRY REVISION

<u>POSITIVE ION</u>	<u>NEGATIVE ION</u>
Atom of a metal that lost electron or more	Atom of a non-metal that gained electron or more
+ve charge = no of lost electrons	-ve charge = no of gained electrons
protons > electrons	Electrons > protons
Number of its energy level less than that of atom	Number of its energy level equal that of atom

### CHEMICAL BONDS:

#### 1. Ionic bond :

it is a chemical bond resulting from the **electronic attraction** between **positive ion of a metal** and **negative ion of a non-metal**

#### 2. Covalent bond :

It is the chemical bond **between atoms of non-metals** through **sharing** of each atom with a number of electrons to complete their outermost energy level with electrons

### VALENCY:

It's the number of electrons that an atom gains, loses or shares during a chemical reaction

	<b>METALS</b>	<b>NON-METALS</b>
<b>MONOVALENT</b>	Lithium , Sodium , Potassium , Silver	Hydrogen , Chlorine , Fluorine , Bromine , Iodine
<b>DIVALENT</b>	Calcium , Magnesium , lead , Mercury , zinc	Oxygen

Trivalent → Aluminium – Gold

Tetravalent → Carbon

Some elements have more than one valency:

Cu → I or II

S → di or tetra or hexavalent

Fe → II or III

N → tri or pentavalent ← P

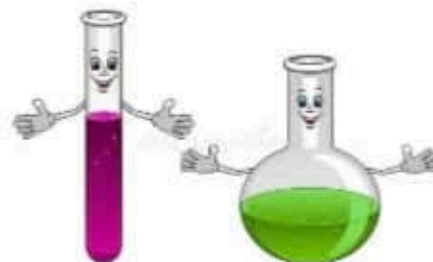


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## CHEMISTRY REVISION

### THE ATOMIC GROUP:

It is a set of atoms of different elements joined together and behave like one atom during a chemical reaction having its own valency



Atomic group	V	Atomic group	V	Atomic group	V
Hydroxide group (OH) <sup>-</sup> Bicarbonate (HCO <sub>3</sub> ) <sup>-</sup> Nitrate (NO <sub>3</sub> ) <sup>-</sup> Nitrite (NO <sub>2</sub> ) <sup>-</sup> Ammonium (NH <sub>4</sub> ) <sup>+</sup>	Monovalent	Carbonate (CO <sub>3</sub> ) <sup>-2</sup> Sulphate (SO <sub>4</sub> ) <sup>-2</sup>	Divalent	Phosphate group (PO <sub>4</sub> ) <sup>-3</sup>	Trivalent

### CHEMICAL FORMULA:

It is the formula that represents the number and the type of the atoms in molecules

	NaCl	H <sub>2</sub> O
Number of elements	2	2
Number of atoms	2	3

CHEMICAL COMPOUNDS are classified into:

1. Acid	2. Base
They are substance which dissociates in water giving H <sup>+</sup>	They are substance which dissociates in water giving OH <sup>-</sup>

### 3. OXIDES:

They are compounds resulted from the combination between elements (either metal or non-metal) with oxygen

### 4. SALTS :

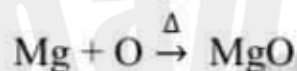
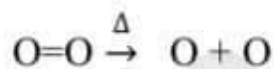
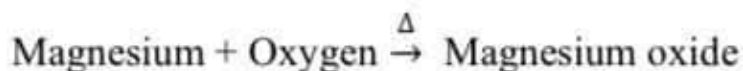
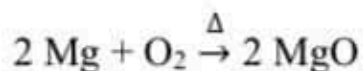
- They are compounds resulted from the combination of positive metal ion or positive atomic group with negative non-metal or negative atomic group

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## CHEMISTRY REVISION

### CHEMICAL REACTION :

It is the breaking down of bonds between atoms of reactants and forming new bonds between atoms of products



### CHEMICAL EQUATION:

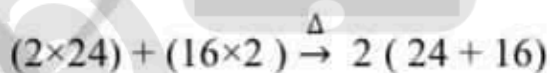
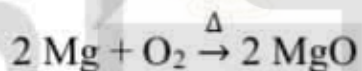
It is a set of symbols and chemical formula representing reactants and products in the chemical reaction and represents conditions of the reaction

**Chemical equation should be balanced**

Law of conservation of mass :

Sum of reactants masses in any chemical equation equals the sum of products

Given that the masses of Mg = 24 gm , O = 16 gm, prove the conservation law of mass



$$48 + 32 \qquad 2 \times 40$$

$$80 \text{ gm} \qquad 80 \text{ gm}$$



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