

تم تحميل هذا الملف من موقع المناهج الإماراتية



شرح درس الذرات والعناصر والمركبات منهج إنسباير

موقع المناهج ← المناهج الإماراتية ← الصف العاشر المتقدم ← علوم ← الفصل الأول ← ملفات متنوعة ← الملف

تاريخ إضافة الملف على موقع المناهج: 2024-12-01 15:05:42

ملفات اكتب للمعلم اكتب للطالب الاختبارات الكترونية | اختبارات | حلول | عروض بوربوينت | أوراق عمل
منهج انجليزي | ملخصات وتقارير | مذكرات وبنوك | الامتحان النهائي للمدرس

المزيد من مادة
علوم:

إعداد: أحمد الحداد

التواصل الاجتماعي بحسب الصف العاشر المتقدم



صفحة المناهج
الإماراتية على
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

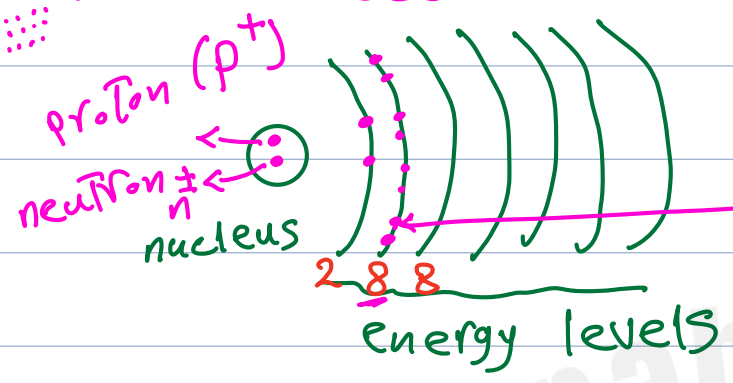
المواد على تلغرام

المزيد من الملفات بحسب الصف العاشر المتقدم والمادة علوم في الفصل الأول

ملخص وشرح الدرس الثالث Compounds Carbon مكونات الكربون	1
ملخص وشرح الدرس الثاني Water of Properties خصائص الماء	2
ملخص وشرح الدرس الأول Reactions Chemicals التفاعلات الكيميائية	3
ملخص وشرح الدرس الأول System Circulatory الجهاز الدوري	4
عرض بوربوينت الدرس الثالث genetics Applied علم الوراثة التطبيقي	5

* matter: is anything that has mass and take space.

الذرات \rightarrow Atom building block of matter.



- O oxygen
- N nitrogen
- H Hydrogen

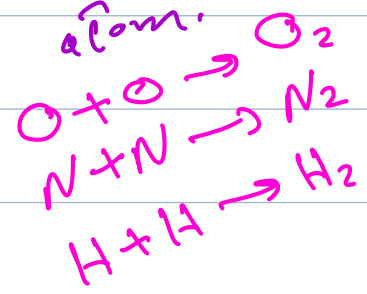
number · number

$8 p^+ \quad 8 e^- \rightarrow$ Atom steady. مستقرة
 $8 p^+ \quad 7 e^- \rightarrow$ Atom is \oplus unstable.
 $7 p^+ \quad 8 e^- \rightarrow$ Atom is \ominus unstable.

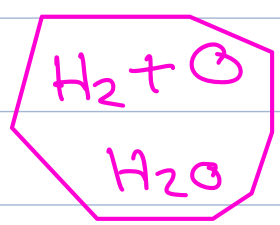
\rightarrow necessary make bond with another atom.

Atom + Atom \rightarrow element

made of only one type of atom. \rightarrow is a pure substance cannot be broken down by physical or chemical methods into smaller particles.



118 elements in periodic Table.



→ each element contain specific numbers of P^+ and e^- and n^{\pm}

* Carbon C^6 $\frac{P^+}{e^-} = 6$ $n^{\pm} = 6$ (12)
 in all organic macro molecules.

تظير isotope C^6 $\frac{P^+}{e^-} = 6$ $n^{\pm} = 7$ (13)
 in nature.

النظير المشع Radioactive isotope C^6 $\frac{P^+}{e^-} = 6$ $n^{\pm} = 8$ (14)
 use in discover cancers
 use in plays in festivals.

the different between an element and its isotope and its radioactive isotope is number of neutrons. n^{\pm} .

- Brilliant fire works النيران
- Use in x-rays.
- Use in medicine.

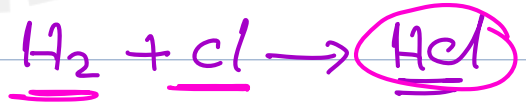
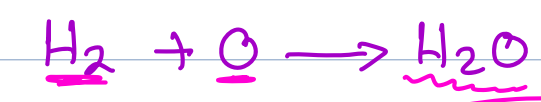
Ahmed Elhddad 2024
 The First Bio Teacher
 0547955495
 (in TikTok 'dispensary')
https://www.tiktok.com/@ahmedgelhddad?_t=8rqTdYm7AbY&_r=1

Atom + Atom → element.

Compounds:

element + element → Compound.

→ a pure substance formed when (2) or (more) different elements combine together, by bond.

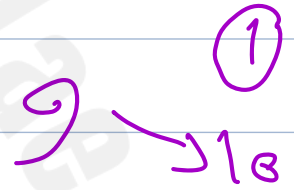
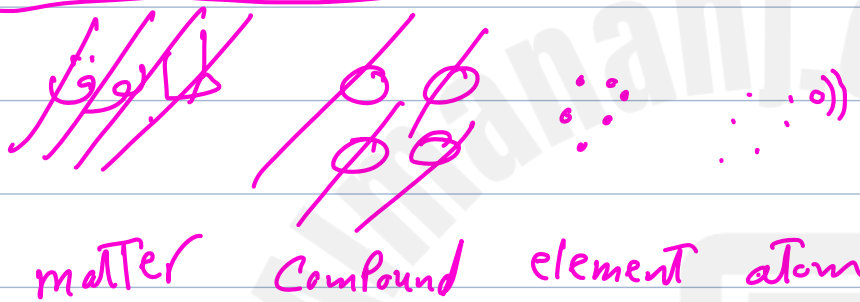
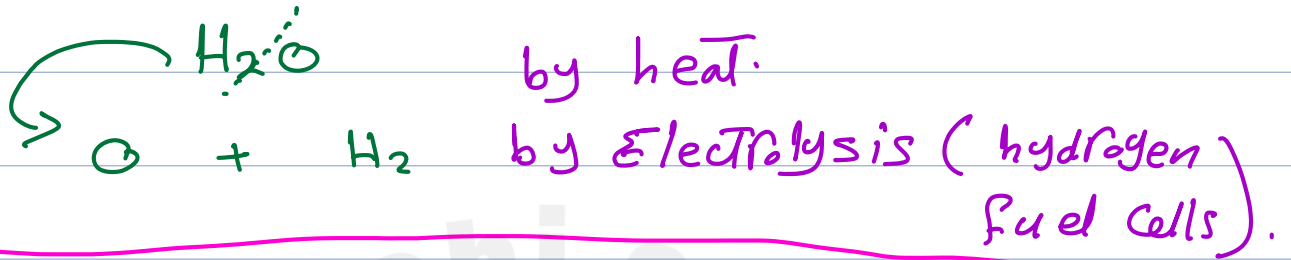


inside stomach.

Compound + Compound + Compound → Matter.

* characteristics of compounds:

- ① Compounds always formed from specific elements different in ratio.
- ② Compounds can break down by physical or chemical methods into elements.



قوة
 chemical bonds
 Force that hold substances together.

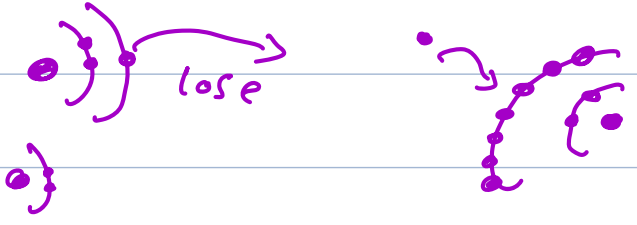
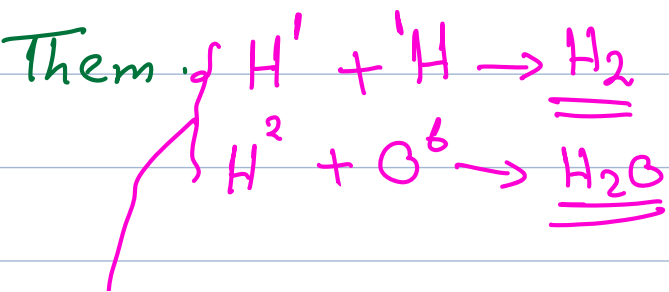
Covalent
 (share electrons)

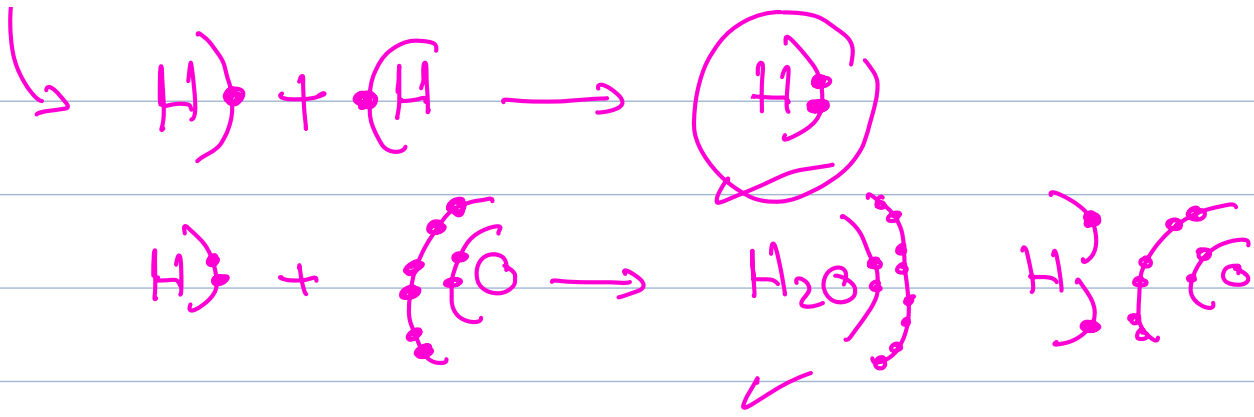
Ionic
 (lose or gain electrons)

Ahmed Elhddad 2024
 The First Bio Teacher
 0547955495
 (in TikTok 'dispensary')
https://www.tiktok.com/@ahmedgelhddad?_t=8rqTdYm7AbY&_r=1

① forms when 2 atoms share electrons between

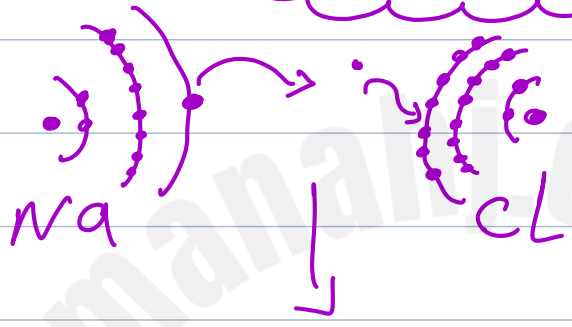
① forms when 2 atoms lose or gain electrons.



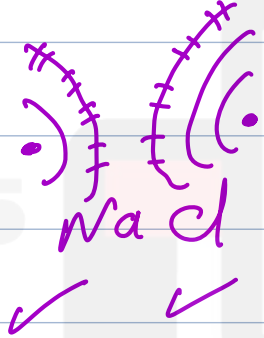


✓
 ✓
 X

Ionic bond



by force
بالقوة

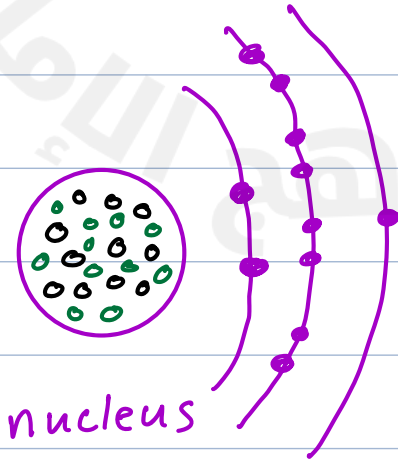


Salt

Ahmed Elhddad 2024
 The First Bio Teacher
 0547955495
 (in TikTok 'dispensary')
https://www.tiktok.com/@ahmedgelhddad?_t=8rqTdYm7AbY&_r=1

$Na = 11 p^+$ and 11 neutrons,
 $11 e^-$

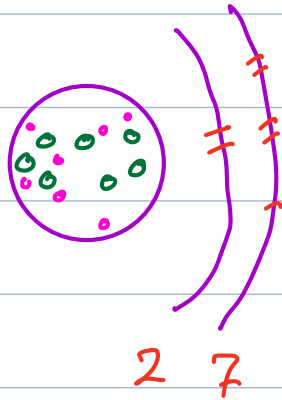
$2 \quad 8 \quad 8$
 $e^- \quad e^- \quad e^-$



Ahmed Elhddad 2024
 The First Bio Teacher
 0547955495
 (in TikTok 'dispensary')
https://www.tiktok.com/@ahmedgelhddad?_t=8rqTdYm7AbY&_r=1

Si ¹⁴

- $p = 7$
- $e = 7$
- $n = 7$



Ionic bonds

outer energy level

1 or 2 or 3 electrons

Lose

5 or 6 or 7 electrons

gains

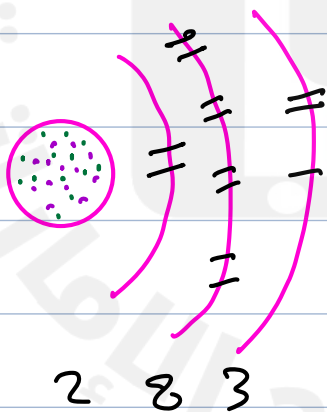
4 electrons

Share

Covalent bonds

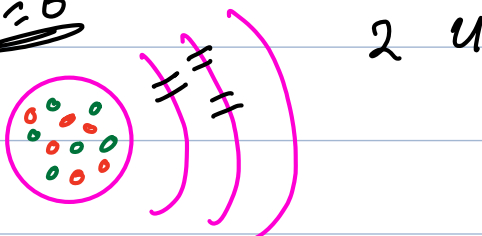
Fe ²⁶

- $p = 13$
- $e = 13$
- $n = 13$



Mg ¹²

- $p = 6$
- $e = 6$
- $n = 6$



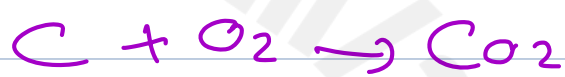
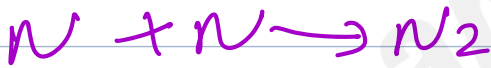
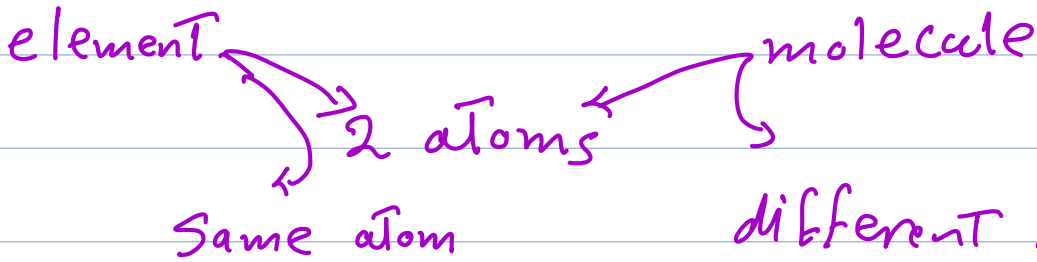
Ahmed Elhddad 2024
The First Bio Teacher
0547955495

(in TikTok 'dispensary')

https://www.tiktok.com/@ahmedgelhddad?_t=8rqTdYm7AbY&_r=1

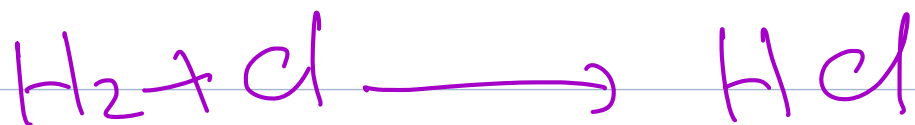
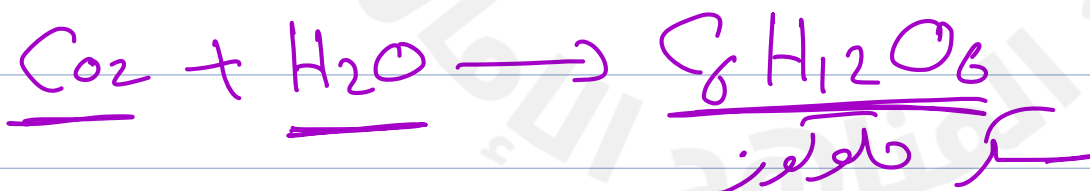
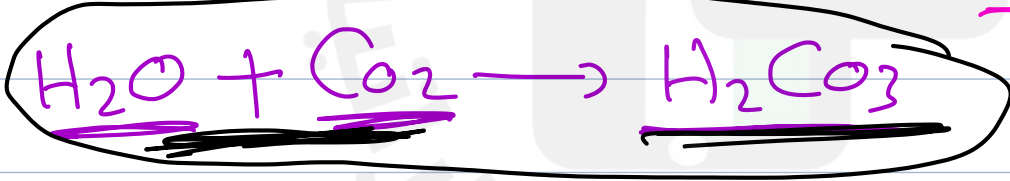
Co not atom
molecule

Ahmed Elhddad 2024
The First Bio Teacher
0547955495
(in TikTok 'dispensary')
[https://www.tiktok.com/@ahmedgelhddad?
_t=8rqTdYm7AbY&_r=1](https://www.tiktok.com/@ahmedgelhddad?_t=8rqTdYm7AbY&_r=1)



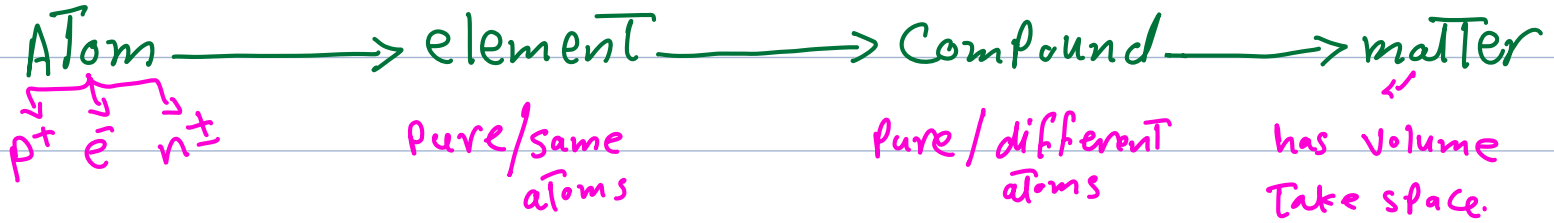
Compound

2 or more elements or molecules.



Ahmed Elhddad 2024
The First Bio Teacher
0547955495
(in TikTok 'dispensary')
[https://www.tiktok.com/@ahmedgelhddad?
_t=8rqTdYm7AbY&_r=1](https://www.tiktok.com/@ahmedgelhddad?_t=8rqTdYm7AbY&_r=1)

NO, Some Compounds are different elements



التفاعلات الكيميائية Chemical Reactions

process by which atoms or groups of atoms in substances are reorganized in different substance.

changes

chemical changes

change in structure.

ex: rusting الصدأ

physical changes

change in state of matter.

ex: liquid water → water vapor.

liquid → gas.

Ahmed Elhddad 2024
The First Bio Teacher
0547955495

(in TikTok 'dispensary')

https://www.tiktok.com/@ahmedgelhddad?_t=8rqTdYm7AbY&_r=1

التفاعلات الكيميائية Chemical equation

chemicals formulas describe substances in the reaction.

Reactants → Products.

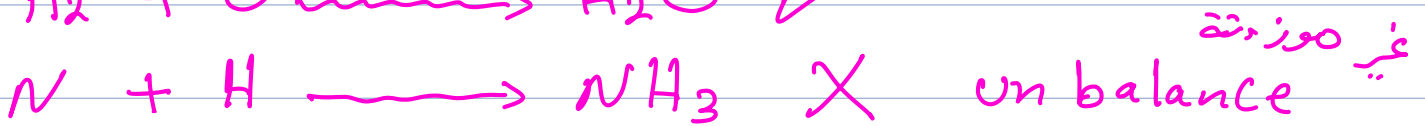
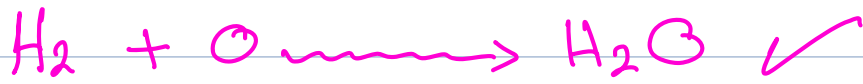
starting

formed

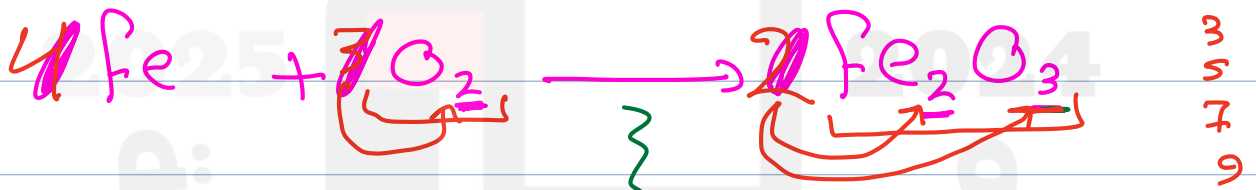


- in equations necessary number of reactant equal number of product. due to Law of Conservation of mass قانون حفظ الكتلة

matter not created nor destroyed but change its form (state).



$2 = \text{N} = 1$ ✓ $2 = \text{N} = 1$
 $6 = \text{H} = 1$ ✓ $6 = \text{H} = 3$

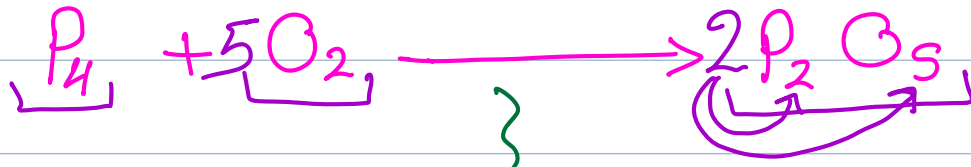


$4 = \text{Fe} = 1$ ✓ $4 = \text{Fe} = 2$
 $6 = \text{O} = 2$ ✓ $6 = \text{O} = 3$

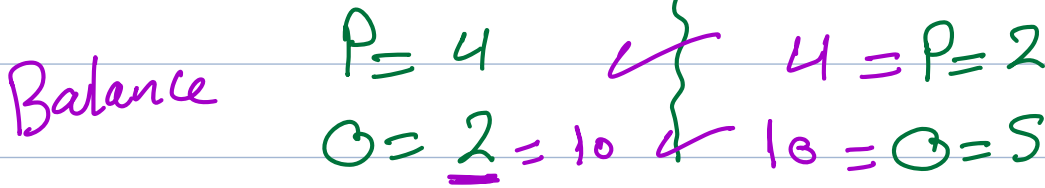


$\text{Hg} = 2$ } $\text{Hg} = 1$
 $\text{O} = 2$ } $\text{O} = 2$

مسألة
خرب



رقم
فرس
3
5
7
9



* Any chemical reaction need **energy** to start.

طاقة التنشيط
Activation energy

The minimum amount of energy needed for reactant to form product.

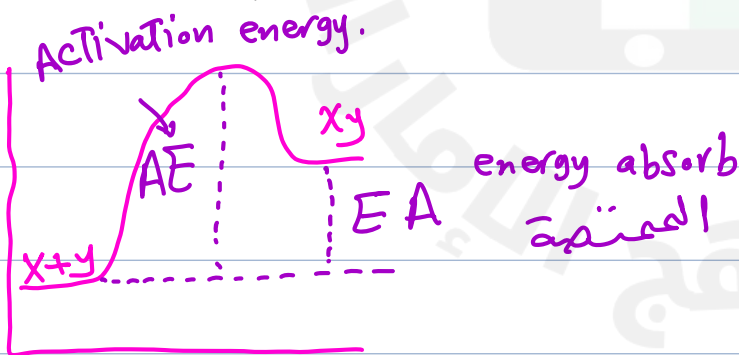


Ahmed Elhddad 2024
The First Bio Teacher
0547955495
(in TikTok 'dispensary')
https://www.tiktok.com/@ahmedgelhddad?_t=8rqTdYm7AbY&_r=1

2 Type of reaction in energy

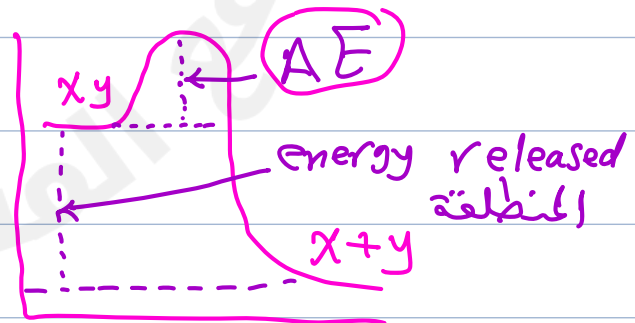
Endothermic reactions

التفاعلات التي تمتص الحرارة



Exothermic reactions

التفاعلات التي تطلق الحرارة



* Reactions That need energy.

* Activation energy high.

* Energy absorb low

* Reactions That release energy.

* Activation energy low

* Energy released high

Enzymes: **الإنزيمات** *each enzyme work on specific matter.*
Specific, Reuse, not increase products.

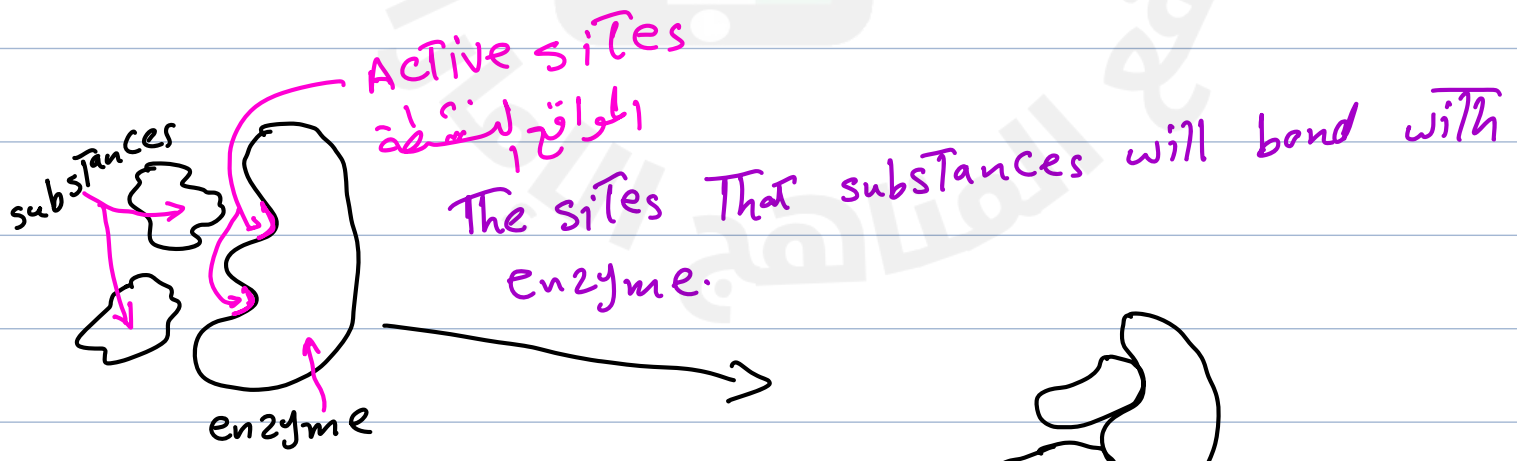
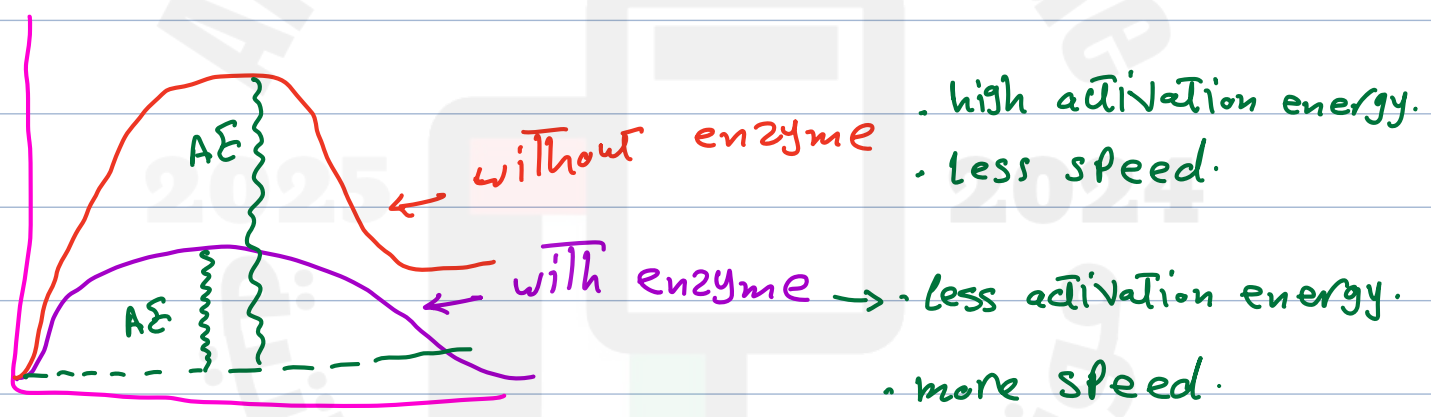
Are chemicals substances in our body increase chemical reactions.

Catalyst: **الحفازات** *not specific, not Reuse, not increase products*
المحفز

Are chemicals substances in Lab increase chemical reactions.

Ahmed Elhddad 2024
 The First Bio Teacher
 0547955495
 (in TikTok 'dispensary')
https://www.tiktok.com/@ahmedgelhddad?_t=8rqTdYm7AbY&_r=1

what are different between reactions with enzyme or catalyst and no enzyme or catalyst?



معلقة الشربيم - باره انتقاله
 enzyme - substance complex

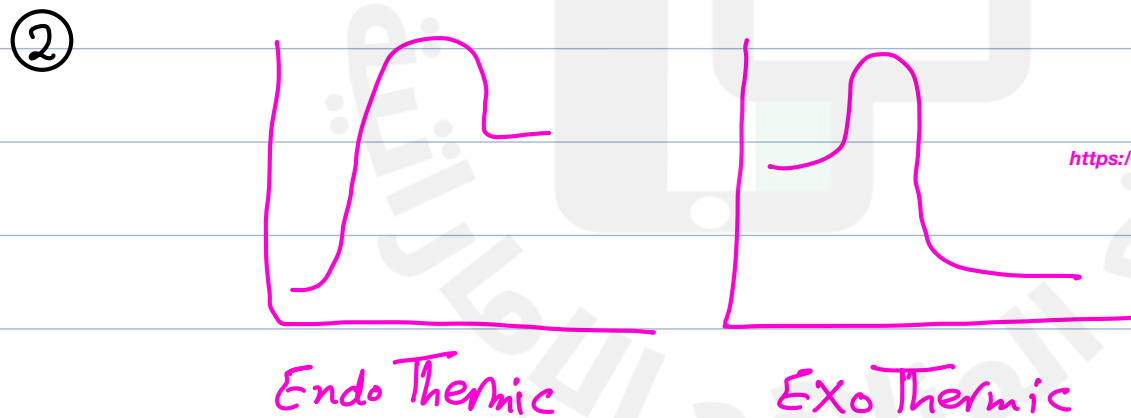
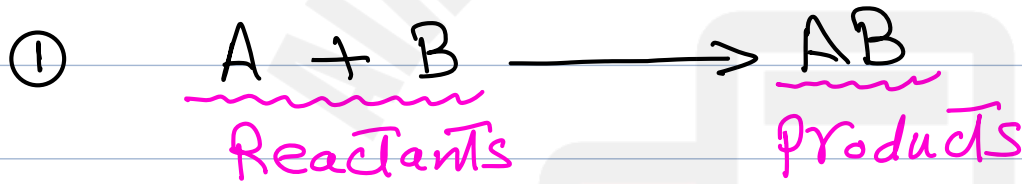
* Factors That effect enzyme activity:

① **Temperature** As temperature increase (until specific degree) activity of enzyme increase. 37°C
الحرارة

② **pH** normal pH for enzyme when $pH = 7$
الرقم الهيدروجيني

③ **Concentration** AS concentration low, enzyme high active.
التركيز

④ **inhibitors** when inhibitors bind in active sites, blocking enzyme activity.
المثبطات



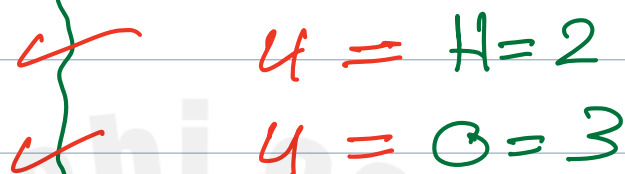
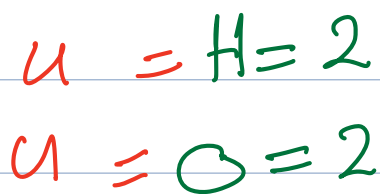
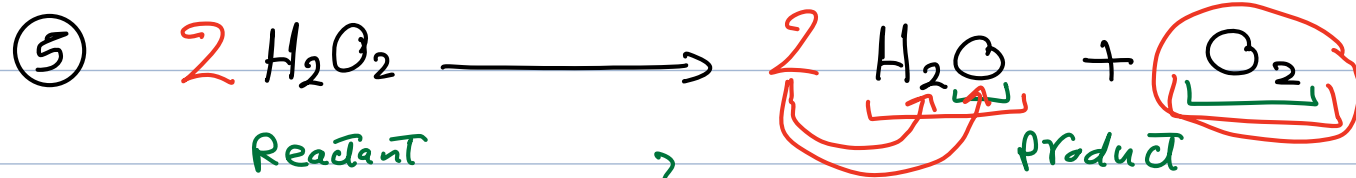
Ahmed Elhddad 2024
The First Bio Teacher
0547955495
(in TikTok 'dispensary')
https://www.tiktok.com/@ahmedgelhddad?_t=8rqTdYm7AbY&_r=1

③ due to Law of Conservation of mass.

(or)

Because matter not created nor destroyed.

- ④ Enzyme → reduce activation energy.
↳ increase chemical reactions.



2025

2024

