بنك أسئلة التفاعلات الكيميائية – الدرس الثاني من الوحدة الأولى

تم تحميل هذا الملف من موقع المناهج الإماراتية	
موقع المناهج ⇦ المناهج الإماراتية ⇦ الصف العاشر ⇦ كيمياء ⇦ الفصل الأول ⇦ ملفات متنوعة ⇦ الملف	
تاريخ إضافة الملف على موقع المناهج: 2026-11-13 17:57:24	
المزيد من مادة كيمياء:	ملفات ا كتب للمعلم ا كتب للطالب ا اختبارات الكترونية ا اختبارات ا حلول ا عروض بوربوينت ا أوراق عمل منهج انجليزي ا ملخصات وتقارير ا مذكرات وبنوك ا الامتحان النهائي ا للمدرس
	إعداد: عمر جيلجيل

التواصل الاجتماعي بحسب الصف العاشر					
صفحة المناهج الإماراتية على فيسبوك					

المزيد من الملفات بحسب الصف العاشر والمادة كيمياء في الفصل الأول	
1	كيمياء أوراق عمل شاملة
2	كيمياء المصطلحات العلمية علل قوانين الكيمياء الكمية
3	كيمياء بنك أسئلة بإشراف الأستاذة فتوح الشمالي (ملف مكون من 53 صفحة)
4	كيمياء بنك أسئلة (ملف مكون من 54 صفحة)
5	كيمياء أسئلة اختبارات + إجاباتها النموذجية

تحميل تطبيق المناهج للهواتف الذكية	
تطبيق المناهج على Store App (آبل)	تطبيق المناهج على Play Google (أندرويد)

Unit 1 – Lesson 2

CHEMICAL REACTIONS

Question Bank

Choose the correct answer for each of the following:

Reactants and Products :

1- Which statement best describes a chemical reaction?

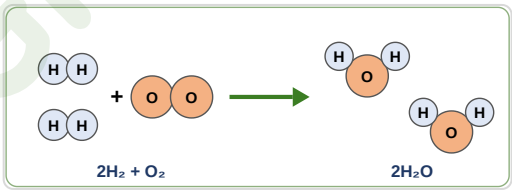
a) A change in the appearance of a substance without changing its composition

b) The process by which atoms or groups of atoms in substances are reorganized into different substances

c) A process in which new matter is created during the reaction

d) A process in which the number of atoms decreases

2- The model shows hydrogen and oxygen reacting to form water. What happens to the chemical bonds during this reaction?



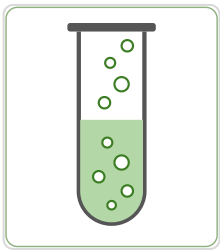
a) They are only formed

b) They are only broken

c) They stay without any change

d) They are broken and formed

3- A student mixed two liquids in a test tube and observed bubbles of a new gas. What does this observation indicate?



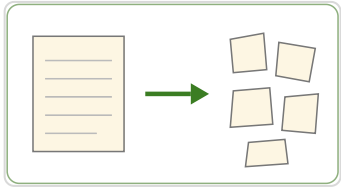
a) A chemical reaction has taken place

b) Only a physical change has taken place

c) The composition of the liquids did not change

d) Matter was destroyed during mixing

4- Cutting a sheet of paper into small pieces is a physical change because it:



a) produces heat and light

b) forms a new substance

c) changes the appearance but not the composition

d) breaks and forms chemical bonds

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CHEMICAL REACTIONS

5- In the equation: Carbon dioxide + Water → Glucose + Oxygen, which substances are the products?

a) Carbon dioxide and water
b) Glucose and oxygen
c) Carbon dioxide and glucose
d) Water and oxygen

6- In a chemical equation, the arrow (→) indicates the process of change. It can be read as:

a) "is equal to"
b) "is destroyed"
c) "is less than"
d) "yields" or "react to form"

Chemical Equations :

7- All chemical equations must be balanced because in chemical reactions:

a) matter cannot be created or destroyed
b) energy is always released as heat
c) products always have more atoms than reactants
d) reactants are always used up completely

$$C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$$

8- Study the balanced equation above. How many oxygen atoms are found on the reactant side?

a) 8
b) 12
c) 18
d) 24

9- In the same equation, which of the following correctly shows the number of carbon and hydrogen atoms on the product side?

a) 6 carbon atoms and 12 hydrogen atoms
b) 1 carbon atom and 2 hydrogen atoms
c) 6 carbon atoms and 6 hydrogen atoms
d) 12 carbon atoms and 12 hydrogen atoms

10- Which statement is true about a balanced chemical equation?

a) The number of molecules on both sides must be equal
b) The products must be the same substances as the reactants
c) The number of atoms of each element on the reactant side equals the number of atoms of the same element on the product side
d) The products always have more mass than the reactants

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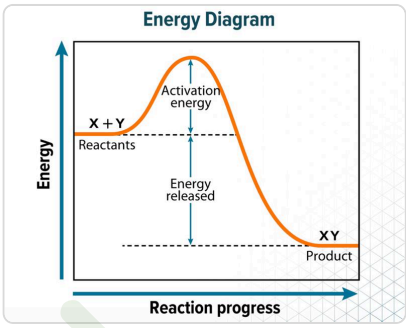
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CHEMICAL REACTIONS

Energy of Reactions :

11- The minimum amount of energy needed for reactants to form products is called:

a) energy released
b) activation energy
c) energy absorbed
d) product energy

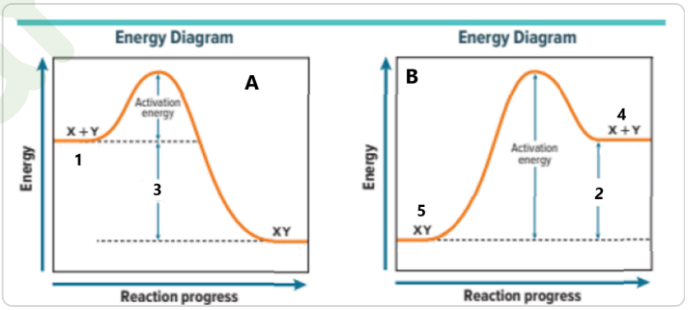


12- Why do some chemical reactions rarely happen?

a) Because their products have low energy
b) Because they release energy as heat
c) Because their equations are balanced
d) Because they require a high activation energy

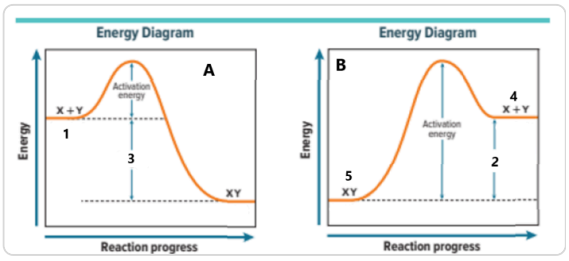
13- Study the two energy diagrams (A and B). Which statement correctly describes diagram A?

a) Endothermic, because the products have more energy than the reactants
b) Exothermic, because the products have less energy than the reactants
c) Endothermic, because energy is released in the form of heat
d) Exothermic, because the reactants have less energy than the products



14- Based on the same diagrams, which number represents the <u>energy absorbed</u> during the reaction?

a) 1 b) 2 c) 3 d) 5



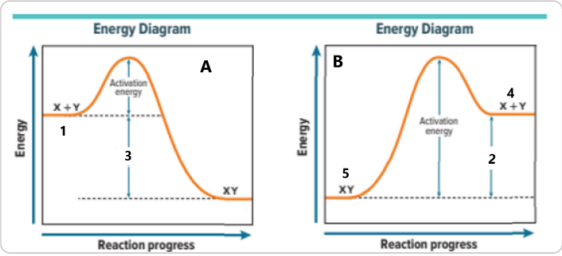
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CHEMICAL REACTIONS

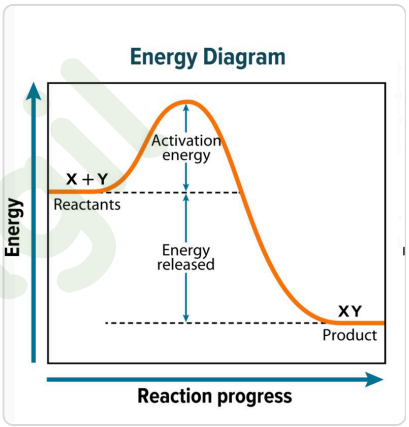
15- Based on the same diagrams, which number represents the reactant in the endothermic reaction?

a) 1 b) 3 c) 4 d) 5



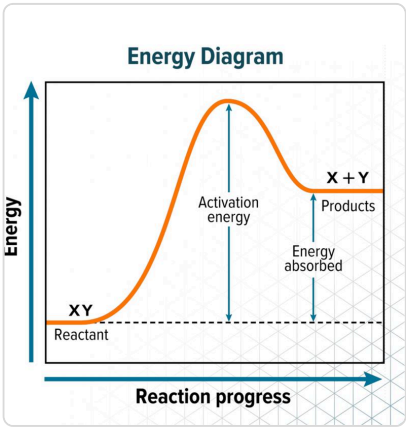
16- In the energy diagram shown, the energy of the product (XY) is lower than the energy of the reactants (X + Y). This means the reaction:

a) absorbs energy in the form of heat
b) has no activation energy
c) releases energy in the form of heat
d) does not need energy to start



17- Which statement is true about the reaction shown in this energy diagram?

a) The products (X + Y) have more energy than the reactant (XY)
b) Energy is released in the form of heat
c) It is an exothermic reaction
d) The reactant and the products have equal energy

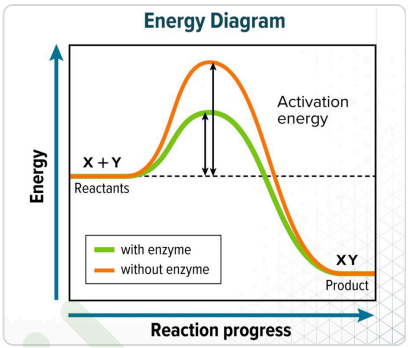


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CHEMICAL REACTIONS

Enzymes :



18- A catalyst is a substance that:

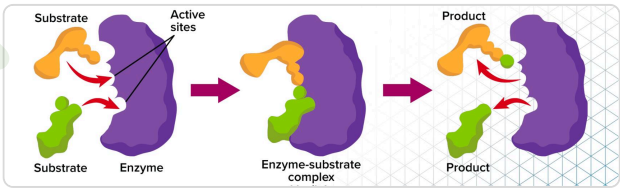
a) raises the activation energy of a reaction
b) is used up during the reaction
c) increases the amount of product produced
d) lowers the activation energy needed to start a reaction

19- Which statement about catalysts is correct?

a) They are not used up and do not change the amount of product produced
b) They change the amount of product produced
c) They are used up at the end of the reaction
d) They increase the activation energy

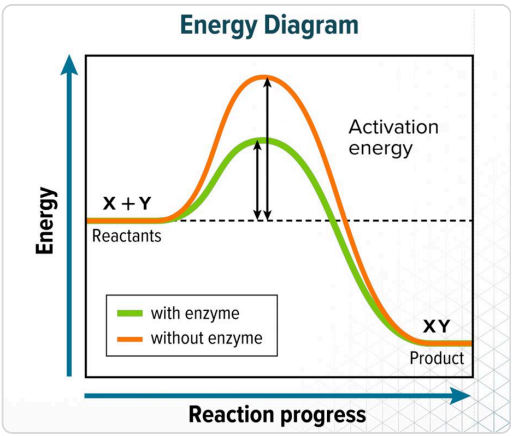
20- Special proteins that act as biological catalysts and speed up the rate of chemical reactions in biological processes are called:

a) substrates
b) enzymes
c) products
d) inhibitors



21- The graph compares the same reaction with and without an enzyme. What does the green curve show?

a) The enzyme increases the energy of the product
b) The enzyme raises the energy of the reactants
c) The enzyme lowers the activation energy of the reaction
d) The enzyme changes the product XY into X + Y



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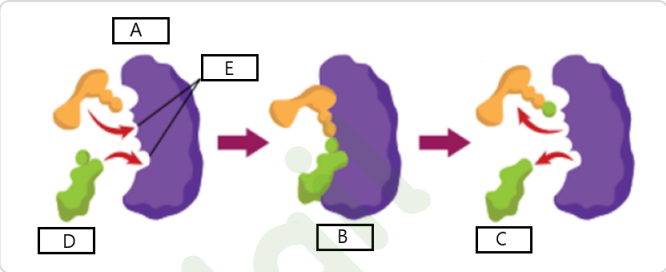
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CHEMICAL REACTIONS

22- Based on the same graph, what stays <u>the same</u> with and without the enzyme?

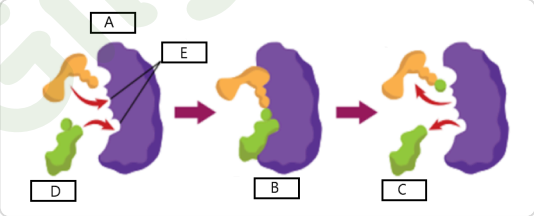
a) The activation energy
b) The energy of the reactants and the product
c) The height of the curve
d) The time needed for the reaction

23- Study the diagram. What does the letter A represent?



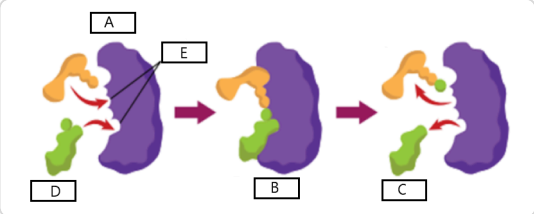
a) Substrate
b) Product
c) Enzyme
d) Active site

24- In the same diagram, the letter E represents the:



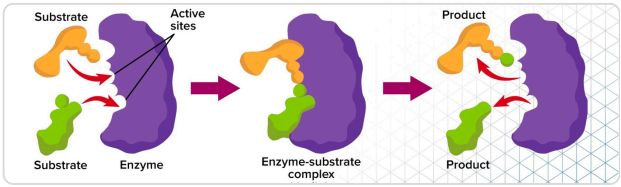
a) active site
b) enzyme-substrate complex
c) product
d) enzyme

25- In the same diagram, the structure labeled B is formed when:



a) the products are released from the enzyme
b) the enzyme is used up in the reaction
c) an inhibitor binds to the product
d) the substrates bind to the active site of the enzyme

26- Study the figure. The reactants that bind to an enzyme are called:



a) products
b) catalysts
c) inhibitors
d) substrates

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CHEMICAL REACTIONS

27- Most enzymes are specific to one reaction. This means that an enzyme:

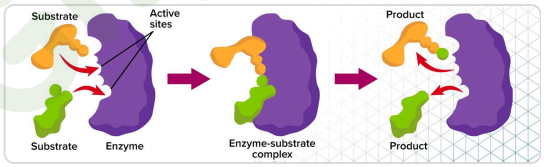
a) can speed up any chemical reaction in the cell
b) is used up after one reaction
c) changes the amount of product produced
d) usually catalyzes only one type of reaction

28- Which of the following are factors that affect enzyme activity?

a) pH and temperature
b) Color and shape of the cell
c) Number of products only
d) Balanced and unbalanced equations

29- How do <u>inhibitors</u> affect an enzyme-catalyzed reaction?

a) They bind to the product and increase its amount
b) They lower the activation energy of the reaction
c) They bind to the active site, prevent the substrate from binding, and slow the rate of reaction
d) They speed up the reaction by binding to the substrate



30- Each enzyme has a range of conditions in which it is most active. What would most likely happen if the pH changes outside this range?

a) Enzyme activity would be affected
b) The enzyme would become a substrate
c) The reaction would produce more product
d) The activation energy would become zero

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Unit 1 – Lesson 2

CHEMICAL REACTIONS

Answer Key

1	b	2	d	3	a	4	c	5	b
6	d	7	a	8	c	9	a	10	c
11	b	12	d	13	b	14	b	15	d
16	c	17	a	18	d	19	a	20	b
21	c	22	b	23	c	24	a	25	d
26	d	27	d	28	a	29	c	30	a

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