

بنك أسئلة غير محلولة في الحيوية



تم تحميل هذا الملف من موقع المناهج الإماراتية

موقع المناهج ← المناهج الإماراتية ← الصف التاسع ← أحياء ← الفصل الأول ← ملفات متنوعة ← الملف

تاريخ إضافة الملف على موقع المناهج: 2026-10-18 12:40:55

ملفات اكتب للمعلم اكتب 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

المزيد من مادة
أحياء:

إعداد: Adel Rania

التواصل الاجتماعي بحسب الصف التاسع



صفحة المناهج
الإماراتية على
فيسبوك

المزيد من الملفات بحسب الصف التاسع والمادة أحياء في الفصل الأول

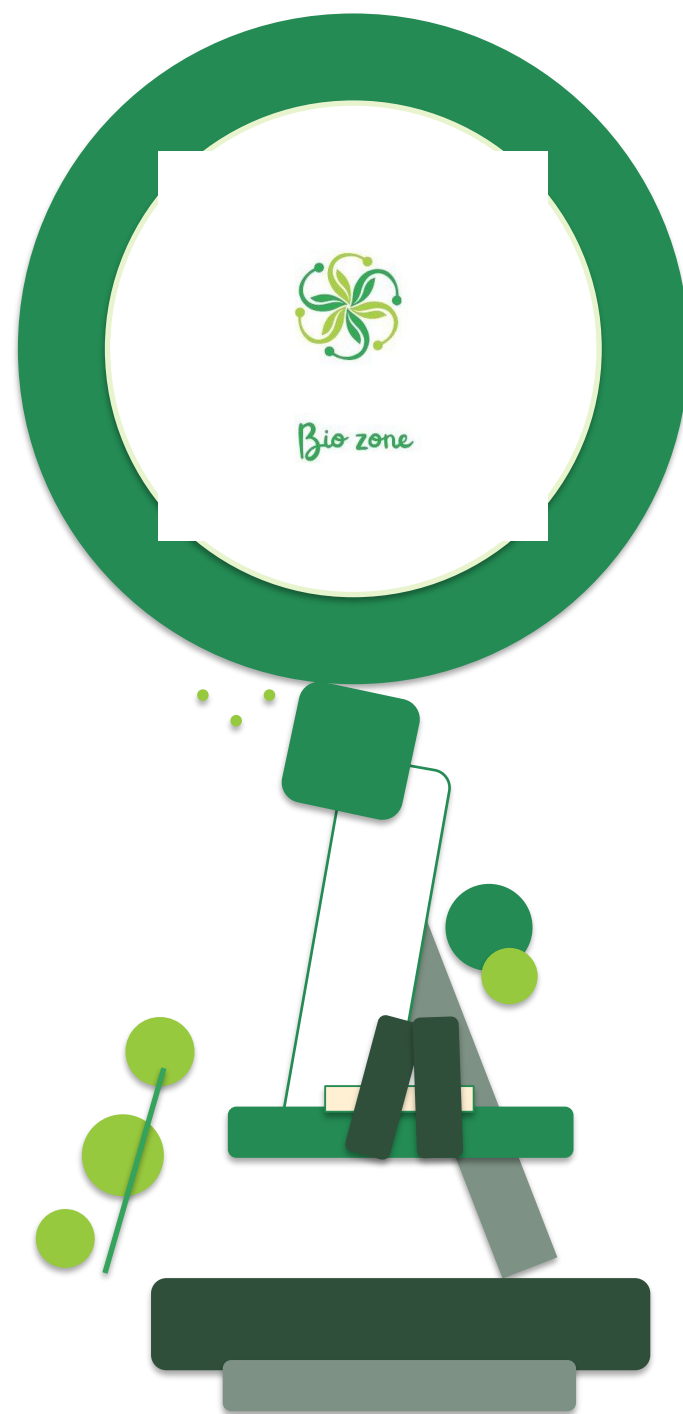
أسئلة درس التفاعلات الكيميائية والإنزيمات - بريدج

1

تحميل تطبيق المناهج للهواتف الذكية

تطبيق المناهج على Play Google (أندرويد)

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BIO

Question bank

Grade 9 inspire unit1



DATE

18/ 10 / 2026



TEACHER

Rania
Adel



GRADE

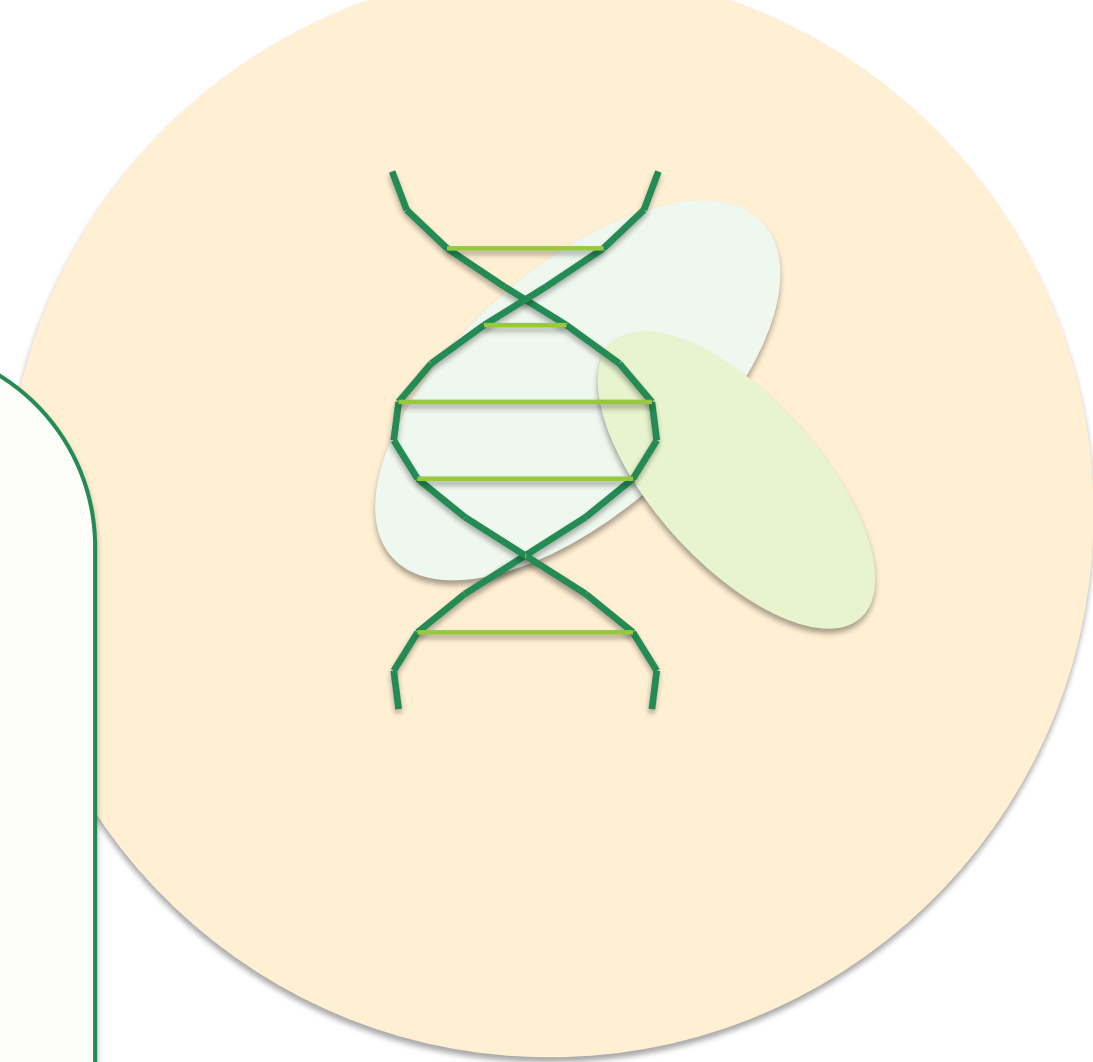
تاسع
أنسباير



SUBJECT

Biology

Learn • Understand • Apply



QUESTION BANK

Lesson 2, 3 & 4: Chemistry in Biology

Practice Questions and Exam Preparation

UNSOLVED PRACTICE QUESTIONS

Complete this section before
checking the Answer Key.

Bio Zone

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1. Process by which atoms or groups of atoms are reorganized into different substances?

(A) Physical change (B) Chemical reaction
(C) Nuclear fission (D) Phase transition

2. What does a chemical equation show on the left side of the arrow?

(A) Products (B) Yields (C) Reactants (D) Coefficients

3. The principle that matter cannot be created or destroyed is known as:

(A) Law of conservation of mass (B) Law of thermodynamics (C) Activation energy (D) Polarity

4. In the equation $C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$, what is the number '6' in $6O_2$ called?

(A) Subscript (B) Product (C) Coefficient
(D) Catalyst

5. Minimum amount of energy needed for reactants to form products is:

(A) Kinetic energy (B) Activation energy
(C) Thermal energy (D) Potential energy

6. A reaction that releases energy in the form of heat is called:

(A) Endothermic (B) Exothermic (C) Isothermic (D) Catalytic

7. Which of the following is an example of an endothermic reaction?

- (A) Cellular respiration (B) A burning candle
(C) Photosynthesis (D) Rusting of iron

8. A substance that lowers the activation energy needed to start a chemical reaction is a:

- (A) Reactant (B) Product (C) Substrate
(D) Catalyst

9. Special proteins that act as biological catalysts are called:

- (A) Enzymes (B) Lipids (C) Carbohydrates
(D) Nucleic acids

10. The specific location where a substrate binds on an enzyme is the:

- (A) Active site (B) Receptor
(C) Allosteric site
(D) Product site

11. Molecules that have an unequal distribution of charges are called:

- (A) Nonpolar molecules (B) Isotopes
(C) Polar molecules (D) Ions

12. Weak electrostatic attractions between molecules are known as:

- (A) Covalent bonds (B) Ionic bonds (C) van der Waals forces (D) Metallic bonds

13. A weak interaction involving a hydrogen atom and a fluorine, oxygen, or nitrogen atom is a:

- (A) Hydrogen bond (B) Covalent bond
- (C) Peptide bond (D) Ionic bond

14. Water forming droplets on a surface is primarily a result of which property?

- (A) Adhesion (B) Cohesion (C) Capillary action (D) Suspension

15. A homogeneous mixture is also known as a:

- (A) Suspension (B) Colloid (C) Solvent
- (D) Solution

16. In a mixture of salt and water, what is the salt?

- (A) Solvent (B) Solute
- (C) Suspension
- (D) Buffer

17. A heterogeneous mixture where particles settle out over time is a:

- (A) Solution (B) Colloid (C) Suspension
- (D) Solvent

18. Blood is an example of which type of mixture?

- (A) Homogeneous solution (B) Colloid
- (C) Suspension (D) Pure substance

19. Substances that release hydrogen ions (H^+) when dissolved in water are:
(A) Acids (B) Bases (C) Salts
(D) Buffers

20. A solution with a pH of 3 is considered:
(A) Basic (B) Neutral (C) Acidic
(C) Acidic (D) A buffer

21. Mixtures that can react with acids or bases to keep pH within a particular range are:
(A) Solvents (B) Buffers (C) Colloids
(D) Indicators

22. The element that is a component of almost all biological molecules is:
(A) Oxygen (B) Nitrogen
(C) Carbon (D) Hydrogen

23. Large molecules formed by joining smaller organic molecules together are called:
(A) Monomers (B) Macromolecules
(C) Elements (D) Atoms

24. Compounds composed of carbon, hydrogen, and oxygen in a ratio of 1:2:1 (CH_2O)_n are:
(A) Proteins (B) Lipids (C) Carbohydrates
(D) Nucleic acids

25. Which polysaccharide provides structural support in plant cell walls?
(A) Glycogen (B) Chitin (C) Glucose
(D) Cellulose

26. Molecules made mostly of carbon and hydrogen that make up fats, oils, and waxes are:
(A) Carbohydrates (B) Lipids
(C) Proteins (D) Nucleic acids

27. The basic building blocks of proteins are:
(A) Amino acids (B) Fatty acids
(C) Nucleotides (D) Monosaccharides

28. The bonds that join amino acids together to form proteins are called:
(A) Hydrogen bonds (B) Peptide bonds
(C) Ionic bonds (D) van der Waals forces

29. Complex macromolecules that store and transmit genetic information are:
(A) Proteins (B) Carbohydrates
(C) Lipids (D) Nucleic acids

30. Which of the following is NOT a component of a nucleotide?
(A) Phosphate group (B) Nitrogenous base
(C) Ribose sugar (D) Fatty acid tail

31. A physical change alters a substance's chemical composition. (T / F)

32. Exothermic reactions have lower energy in the product than in the reactants. (T / F)

33. Enzymes are used up by the chemical reaction and cannot be used again. (T / F)

34. Environmental factors such as temperature and pH can affect enzyme activity. (T / F)

35. Water is considered a nonpolar molecule due to its equal sharing of electrons. (T / F)

36. Capillary action (water traveling up a stem) is a result of adhesion. (T / F)

37. Ice is more dense than liquid water, which is why it sinks to the bottom of lakes. (T / F)

38. Bases release hydroxide ions (OH^-) when dissolved in water. (T / F)

39. Saturated fats have at least one double bond between carbon atoms in the tail chain. (T / F)

40. ATP is a nucleotide with three phosphate groups that stores chemical energy. (T / F)

46. Explain why **chemical equations must be balanced in terms of scientific laws.**

[illegible]

47. Describe how an **enzyme** interacts with its substrate, using the terms **active site** and **shape**.

[illegible]

48. Distinguish between a **solvent** and a **solute** in a homogeneous mixture.

49. Identify the two primary functions of carbohydrates in biological systems.

50. List the four major categories of biological macromolecules found in living organisms.

[illegible]

ANSWER KEY

Use this section to check your work and grade your practice session.

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16. (B) Solute

17. (C) Suspension

18. (B) Colloid

19. (A) Acids

20. (C) Acidic

21. (B) Buffers

22. (C) Carbon

23. (B) Macromolecules

24. (C) Carbohydrates

25. (D) Cellulose

26. (B) Lipids

27. (A) Amino acids

28. (B) Peptide bonds

29. (D) Nucleic acids

30. (D) Fatty acid tail

True/False

- 31. False (It alters appearance, not composition)
 - 32. True
 - 33. False (They are not used up and can be used again)
 - 34. True
 - 35. False (Water is a polar molecule)
 - 36. True
 - 37. False (Ice is less dense, so it floats)
 - 38. True
 - 39. False (Unsaturated fats have double bonds)
 - 40. True

Fill-in-the-Blanks

41. catalyst
42. pH
43. 7.0 (or 7)
44. triglyceride
45. primary

46. To **satisfy** the **law of conservation of mass**, which states that matter cannot be created or destroyed. The number of atoms of each element on the reactant side must equal the number on the product side.

47. The active site and the substrate have complementary shapes. Only substrates with the exact same size and shape as the active site will bind to the enzyme, similar to puzzle pieces fitting together.

48. A **solvent** is the substance in which another substance is dissolved (e.g., water). A **solute** is the substance that is dissolved in the solvent (e.g., salt).

49. Carbohydrates serve as an **energy source** for organisms (e.g., **glycogen, glucose**) and provide **structural support** (e.g., cellulose in plants, chitin).

50. Carbohydrates, lipids, proteins, and nucleic acids.



Bio zone

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