

Weekly Home Work

5th Week

الإدارة المركزية للتعليم العام

إدارة تنمية مادة العلوم



2026

1st Secondary
First Term

Integrated Sciences

إشراف

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مستشار مادة العلوم

إشراف عام

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رئيس الإدارة العامة للتعليم العام

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Lesson (5): The Biological importance of water

1) All the following from the reasons that make “water is essential for life” except

- a) The vital activities in all living cells depend on the water properties.
- b) It is the most abundant chemical substance in living organisms.
- c) It is present in almost all chemical reactions occurring in vital activities.
- d) Water is found inside the cells only.

2) Which of the following correctly describe the percentage of water in mammals?

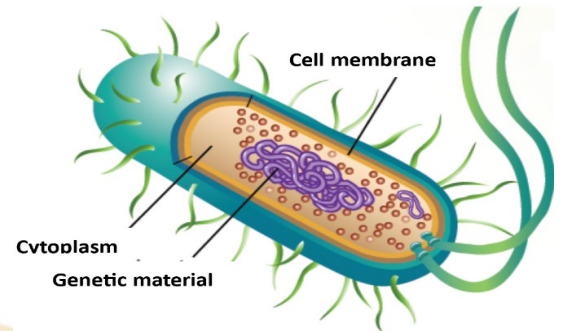
	Of the body mass	Inside cells	Outside cells
A	%٧٠	%٤٧	%٢٣
B	%٧٠	%٢٣	%٤٧
C	%٢٣	%٧٠	%٤٧
D	%٤٧	%٢٣	%٧٠

3) Which of the following correctly describe prokaryotes?

- a) They are multicellular organisms
- b) They are unicellular or multicellular organisms
- c) Their genetic material is not surrounded by a nuclear membrane
- d) Their genetic material is surrounded by a nuclear membrane

4) The shown figure represents cell whose cell wall contains

- a) Bacterial - chitin
- b) Bacterial - peptidoglycan
- c) Fungal - chitin
- d) Fungal - peptidoglycan

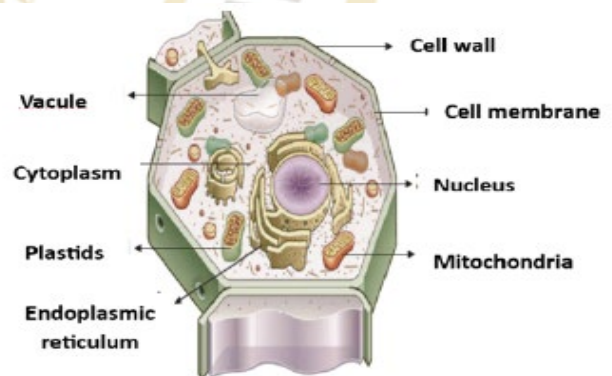


5) Which of the following correctly describe eukaryotes?

- a) They are unicellular organisms only
- b) They are multicellular organisms only
- c) Their genetic material is not surrounded by a nuclear membrane
- d) Their cell contains a nucleus surrounded by a membrane, and specialized organelles

6) The figure shows the structure of a plant cell, which organelles are not found in animal cell?

- A) Cell membrane and plastids
- B) Cell wall and mitochondria
- C) Plastids and cell wall
- D) Endoplasmic reticulum and sap vacuole



7) A thin semi-permeable envelope surrounds the cell in all living organisms and separates the cell components from the surrounding environment is.....

- A) Cell membrane
- B) Cell wall
- C) Nucleus membrane
- D) Endoplasmic reticulum

8) The organelle that controls the cell's activities and contains the genetic material that determines the organism's traits is.....

- A) sap vacuole
- B) mitochondria
- C) nucleus
- D) chloroplast

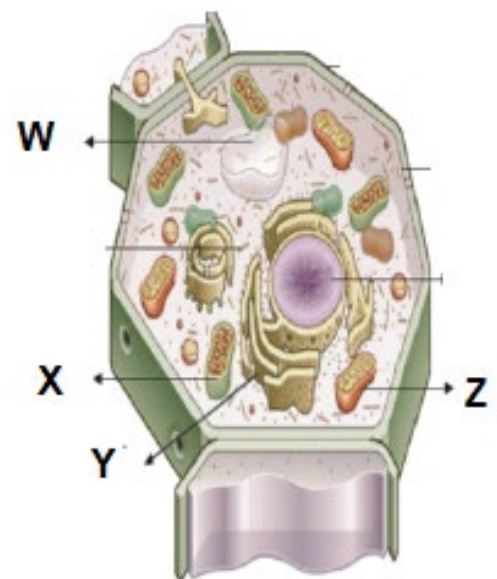
9) The figure shows the structure of a plant cell,

First: Which organelle is not found in animal cell?

- A) Organelle W
- B) Organelle X
- C) Organelle Y
- D) Organelle Z

Second: Which organelle is responsible for the storage of food, water, and excess salts?

- A) Organelle W
- B) Organelle X
- C) Organelle Y
- D) Organelle Z





Third: Which organelle that contains chlorophyll substance and carry out photosynthesis process?

- A) Organelle W
- B) Organelle X
- C) Organelle Y
- D) Organelle Z

Forth: Which organelles that serve as energy-production centers in the cell?

- A) Organelle W
- B) Organelle X
- C) Organelle Y
- D) Organelle Z

Fifth: Which organelles that are a group of membranes used to transport various materials from one place to another inside the cell.?

- A) Organelle W
- B) Organelle X
- C) Organelle Y
- D) Organelle Z

10) Which of the following correctly describe the structure of cell wall in both fungal cell and plant cell?

	In fungal cell	In plant cell
A	chitin	chitin
B	cellulose	cellulose
C	cellulose	chitin
D	chitin	cellulose

11) Which of the following correctly describe catabolism and anabolism processes?

	Catabolism	Anabolism
A	Consumes energy	Consumes energy
B	Releases energy	Releases energy
C	Releases energy	Consumes energy
D	Consumes energy	Releases energy

12) All the following are anabolic process except.....

- A) Formation of glucose in Photosynthesis process
- B) Synthesis of proteins
- C) Development of bones and muscles
- D) Breakdown of glucose sugar

13) All the following are catabolic process except.....

- A) Synthesis of proteins
- B) Breakdown of carbohydrates
- C) Breakdown of protein
- D) Breakdown of glucose sugar

Essay Questions

1) Explain:

- 1- Water is essential for life
- 2- The cell wall of the bacterial cell contains peptidoglycan
- 3- Bacteria are prokaryotes organisms.
- 4- Living organisms maintain stable internal temperatures despite its fluctuations outside.
- 5- Water is considered a basic factor in maintaining internal balance and supporting the complex chemical activities of life.

2) Compare between:

P.O.C	Prokaryotes	Eukaryotes
No. of cells		
The presence of nuclear membrane		
Examples		

3) Compare between:

P.O.C	Protista	Fungi
No. of cells		
The ability to make their own food		
Examples		

4) Compare between:

P.O.C	Plants	Animals
No. of cells		
The ability to make their own food		
The presence of cell wall in their cells		
The presence of plastids in their cells		

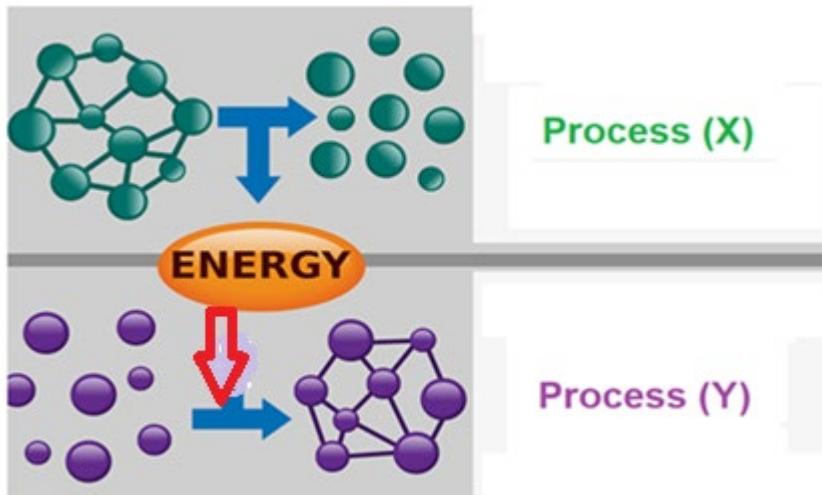
5) Compare between:

P.O.C	Vertebrates animals	Invertebrates animals
Definition		
Examples		

6) Compare between:

P.O.C	Catabolic process	Anabolic process
Definition		
Energy		
Examples		

7) The following figure illustrates the metabolic processes that are divided into process (X) and process (Y).



First: identify the name of each process (X) and (Y).

Second: Write an example for each process.

8) What happen at changing the optimal range of temperature or pH value on enzyme's activity?

العلوم المتكاملة

2025-2026

الصف الاول الثانوي
الفصل الدراسي الأول

التقييم الأسبوعي
الأسبوع الخامس



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First : MCQ

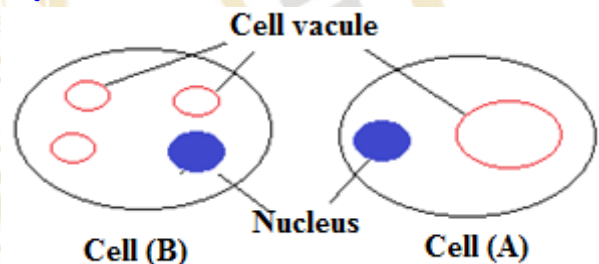
1- Which of the following structures in a living cell performs the function of the person shown in the picture?



- A. Cell wall
- B. Mitochondria
- C. Nucleus
- D. Plasma membrane

2-The figure represents two cells (A) and (B). Study it and then answer:

Which of the following is true regarding the types of cells?



- A. Cell (A) is animal, while cell (B) is plant.
- B. Cell (A) is plant, while cell (B) is animal.
- C. Both (A) and (B) are animal cells.
- D. Both (A) and (B) are plant cells.

3- When studying a living organism, it was found to be:

(Autotrophic, complex in structure, multicellular, has a cell wall, and is immobile).

To which of the following kingdoms does this organism belong?

- A- Protists
- B- Fungi
- C- Plants
- D- Animals

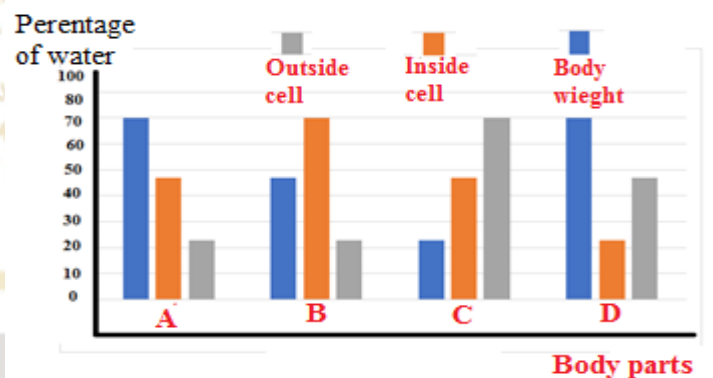
4-Which of the following represents a main difference between golden algae and yeast fungus

- a) Type of nutrition
- b) Presence of a nucleus
- c) Cell type
- d) Presence of cytoplasm"

5- Which of the following plays a fundamental role in regulating an organism's body temperature?

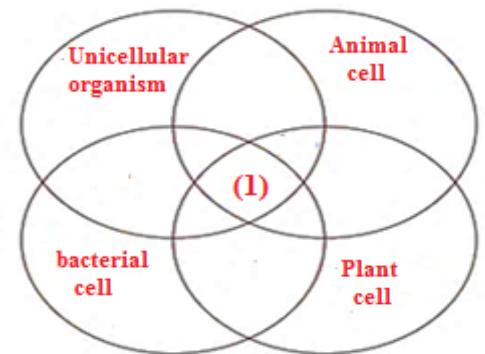
- A- Carbohydrates
- B- Water
- C- Lipids
- D- Mineral salts

6- The opposite figure shows the percentage of water in different parts of the body of a mammal. Study it and then: Which of the following represents the correct percentage of water in the body mass, inside cells, and outside cells, respectively?



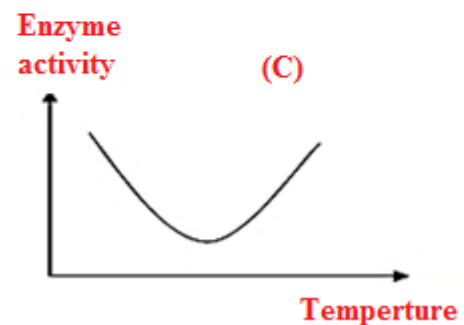
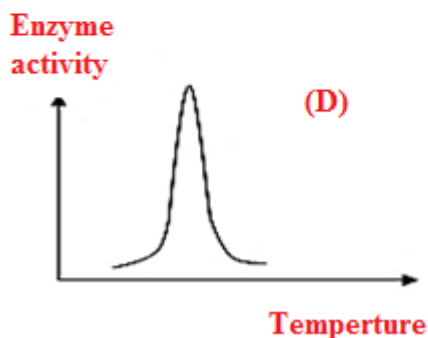
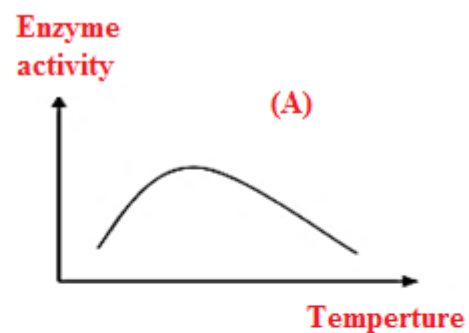
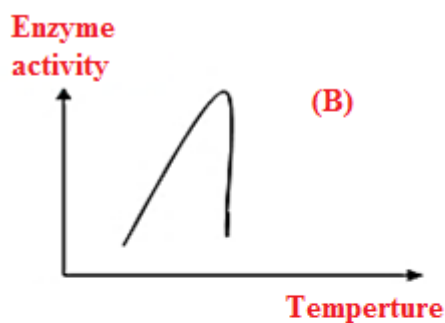
- A- (A)
- B- (B)
- C- (C)
- D- (D)

7 - Study the schematic diagram opposite, which shows the components of the fine structure of the cells of four different organisms, then determine: Which component is represented by the number (1)?



- A- Cell membrane B- Cellulose wall
C- Chloroplast D- Peptidoglycan

8- If you know that enzyme (X) is sensitive to changes in temperature, which of the following curves represents the activity of this enzyme?



9- From your study of prokaryotes and eukaryotes, determine:

Which of the following is present in all prokaryotes and all eukaryotes?

- A. Cellulose B. Nucleus C. Genetic material D. Plastids

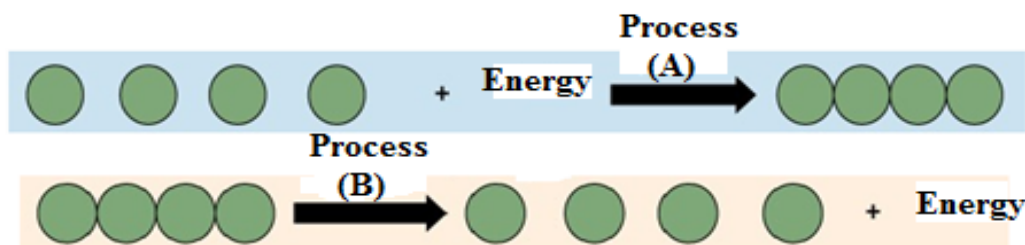
10- All of the following are considered invertebrates except....

- A. Cockroach B. Crocodile C. Starfish D. Pearl oyster

11- Plants differ from animals in all of the following except...

- A- The ability to move B- Type of nutrition
C- Multicellular D- The presence of cellulose

12- The opposite diagram represents vital processes occurring in a living organism. Study it and then determine:



- A. Process (A) occurs in the mitochondria, while process (B) occurs during muscle formation.
B. Process (B) occurs in the mitochondria, while process (A) occurs during muscle formation.
C. Both (A) and (B) occur in the mitochondria.
D. Both (A) and (B) occur during muscle formation.

13- Enzymes are characterized by their composition of:

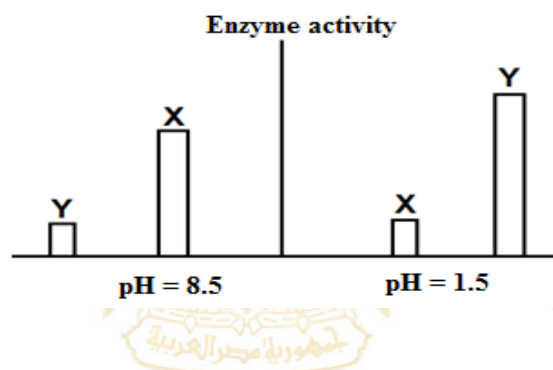
A- Lipids

B- Inorganic salts

C- Proteins

D- Carbohydrates

14- The opposite curve represents what happens when enzymes (X) and (Y) are placed at different pH values. From your study of the curve, determine:



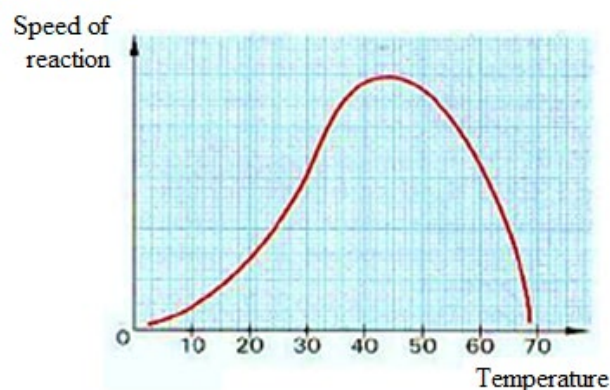
A- Enzyme (X) is active in an acidic medium, and enzyme (Y) is active in an alkaline medium.

B- Enzyme (Y) is active in an acidic medium, and enzyme (X) is active in an alkaline medium.

C- Both enzymes are active in an acidic medium.

D- Both enzymes are active in a basic medium.

15- The opposite curve shows the activity of an enzyme at different temperatures. Study the curve and determine which of the following is true for this enzyme?



- A- The reaction rate reaches its highest level at 5°C
- C- All enzyme molecules are consumed at 70°C
- C- Enzyme activity is equal at 30°C and 60°C
- D- Enzyme activity is lowest at 45°C

Second: Essay questions

1- The cells of all living organisms depend on water for their vital processes. Explain

2- What factor in a living cell determines the classification of living organisms into two types?



3- Determine the factors by which eukaryotic organisms are classified?

4- Identify the structures that distinguish a plant cell from an animal cell, and state the function of each.

5- Explain the role of water in the proper functioning of cell organelles.

6- Although catabolism and anabolism are opposite processes, they both play an important role in the body of a living organism. Explain.

7- Explain the importance of enzymes in vital processes within the body of a living organism.

8- What is meant by the thermal range of an enzyme? Explain its importance to the living organism.