COURSE:..... NAME:.....Date: .....

Vocabulary

Check the box to show whether each statement is true or false.

T	F	
☐	☐	1 Photosynthesis is the process in which cells use oxygen to break down food and release stored energy.
☐	☐	2 A molecule is made up of atoms that are joined together.
☐	☐	3 A eukaryote has cells that do not contain a nucleus, whereas a prokaryote has cells that have a nucleus.
☐	☐	4 A cell organelle that is found in animal cells but usually not in plant cells is a lysosome.
☐	☐	5 A tissue is a group of similar cells that perform a common function.

Key Concepts

Read each question below, and circle the best answer.

6 Prem finds an unusual object on the forest floor. After he examines it under a microscope and performs several lab tests, he concludes that the object is a living thing. Which of the following observations most likely led to Prem's conclusion?

A The object contained carbon.

B Prem saw cells in the object.

C The object had a green color.

D Prem saw minerals inside the object.

7 Which of the following substances must animal cells take in from the environment to maintain homeostasis?

A DNA

B oxygen

C chlorophyll

D carbon dioxide

8 Juana made the following table.

Organelle	Function
Mitochondrion	Cellular respiration
Ribosome	DNA synthesis
Chloroplast	Photosynthesis
Endoplasmic reticulum	Makes proteins and lipids
Golgi complex	Packages proteins

Juana's table lists several cell organelles and their functions, but she made an error. Which of the organelles shown in the table is listed with the wrong function?

A mitochondrion
B ribosome
C cell membrane
D Golgi complex

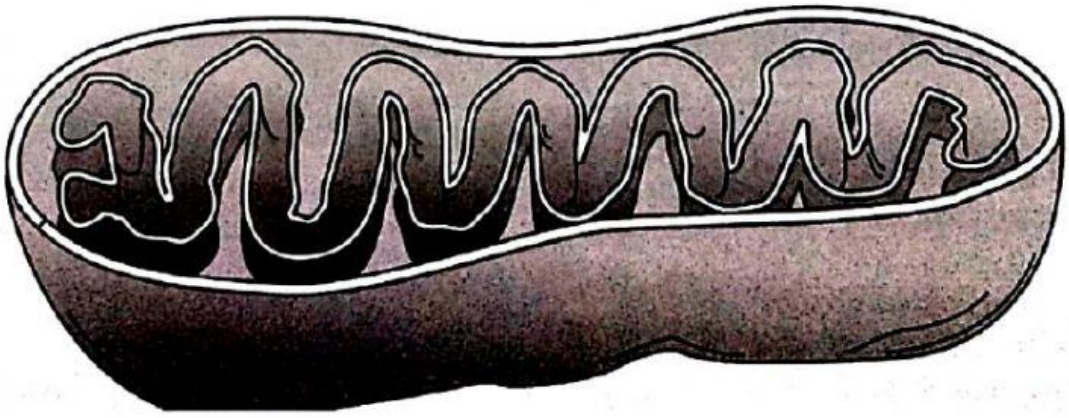
9 Which molecule is a source of energy, a store of energy in the body, and can mix with water?

A lipid
B chlorophyll
C nucleic acid
D carbohydrate

10 Which method of material exchange uses up energy?

A osmosis
B diffusion
C active transport
D passive transport

11 The following diagram shows a common cell organelle.



12 Plants contain xylem and phloem tissue. What organ system in animals performs a similar function as the xylem and phloem of plants?

A digestive system

B excretory system

C respiratory system

D circulatory system

13 Which statement correctly tells why the cells of unicellular and multicellular organisms divide?

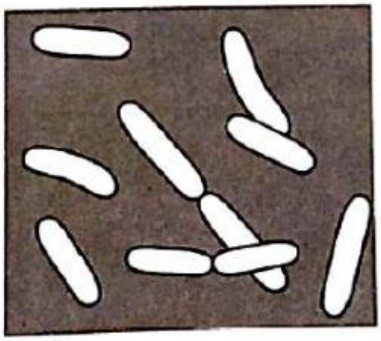
A The cells of unicellular organisms divide to reproduce; those of multicellular organisms divide to replace cells and to grow.

B The cells of unicellular organisms divide to replace cells and to grow; those of multicellular organisms divide to reproduce.

C The cells of both kinds of organisms divide to reproduce.

D The cells of both kinds of organisms divide to replace cells and to grow.

14 The following picture shows *Escherichia coli* cells, a species of bacterium.



Which of the following statements correctly compares the cells shown in the picture with a human cell?

A Both types of cells divide by mitosis.

B Human cells contain proteins but *E. coli* cells do not.

C Both cells contain ribosomes and a cell membrane.

D Human cells contain DNA but *E. coli* cells do not.

15 A plant leaf is an organ that traps light energy to make food. In what way is an animal stomach similar to a plant leaf?

A Both organs make food.

B Both organs are made up of only one kind of cell.

C Both organs are made up of several kinds of tissues.

D Both organs take in oxygen and release carbon dioxide.

16 The following table shows the surface area-to-volume ratio of four cube-shaped cell models.

Cell Model	Surface Area	Volume	Surface Area-to Volume Ratio
A	6 cm^2	1 cm^3	6 : 1 = 6
B	24 cm^2	8 cm^3	24 : 8 = 3
C	54 cm^2	27 cm^3	54 : 27 = 2
D	96 cm^2	64 cm^3	96 : 64 = 1.5

Cells are small, and their surface area is large in relation to their volume. This is an important feature for the proper transport of nutrients and water in to and out of the cell. Which of the four model cells do you think will be best able to supply nutrients and water to its cell parts?

A cell model A

B cell model B

C cell model C

D cell model D

17 Cells of a multicellular organism are specialized. What does this statement mean?

A Cells of a multicellular organism are adapted to perform specific functions.

B Cells of a multicellular organism perform all life functions but not at the same time.

C Cells of a multicellular organism are specialized because they have a complex structure.

D Cells of a multicellular organism can perform all the life functions the organism needs to survive.