

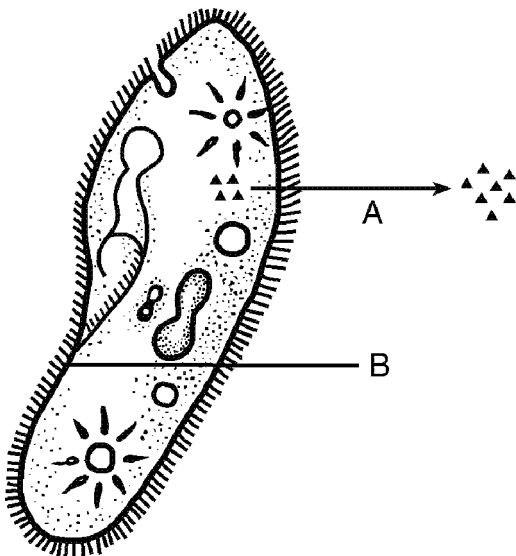
Cell Membrane Star 3

Name: _____

Date: _____

1. In a cell, all organelles work together to carry out
 - A. diffusion
 - B. active transport
 - C. information storage
 - D. metabolic processes

2. Base your answer(s) to the following question(s) on the diagram, which represents a unicellular organism in a watery environment. The ▲'s represent molecules of a specific substance.



Arrow A represents active transport. State *two* ways that active transport is different from diffusion.

3. Base your answer(s) to the following question(s) on the two sets of cell organelles in the chart below and on your knowledge of biology.

	Set A	Set B
Organelle 1	Ribosome	Mitochondrion
Organelle 2	Nucleus	Cell membrane

Select *one* set of organelles and record the letter of the set. Identify a cellular process that is accomplished by organelle 1 in the set you selected.

Set: _____

4. In a cell, information that controls the production of proteins must pass from the nucleus to the

A. cell membrane	B. chloroplasts
C. mitochondria	D. ribosomes

5. Describe how *two* of the cell structures listed below interact to help maintain a balanced internal environment in a cell.

mitochondrion
ribosome
cell membrane
nucleus
vacuole

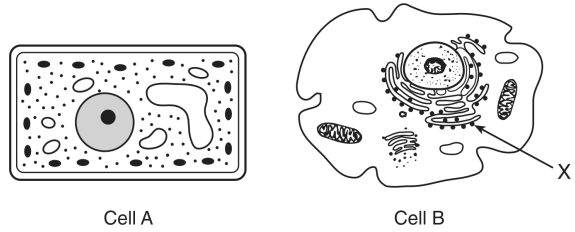
In your answer be sure to:

- select *two* of these structures, write their names, and state one function of each
- describe how each structure you selected contributes to the functioning of the other

6. Which organelle is correctly paired with its specific function?

- A. cell membrane—storage of hereditary information
- B. chloroplast—transport of materials
- C. ribosome—synthesis of proteins
- D. vacuole—production of ATP

7. Base your answer(s) to the following question(s) on the diagrams below and on your knowledge of biology. The diagrams represent two different cells and some of their parts. The diagrams are not drawn to scale.



Which statement *best* describes these cells?

- A. Cell *B* lacks vacuoles while cell *A* has them.
- B. DNA would not be found in either cell *A* or cell *B*.
- C. Both cell *A* and cell *B* use energy released from ATP.
- D. Both cell *A* and cell *B* produce antibiotics.

8. The data table below shows the presence or absence of DNA in four different cell organelles.

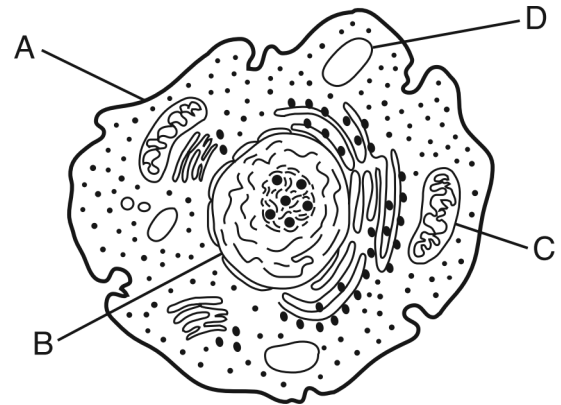
Data Table

Organelle	DNA
cell membrane	absent
cell wall	absent
mitochondrion	present
nucleus	present

Information in the table suggests that DNA functions

- A. within cytoplasm and outside of the cell membrane
- B. both inside and outside of the nucleus
- C. only within energy-releasing structures
- D. within cell vacuoles

9. The diagram below represents a cell.



Which statement concerning ATP and activity within the cell is correct?

- A. The absorption of ATP occurs at structure A.
- B. The synthesis of ATP occurs within structure B.
- C. ATP is produced most efficiently by structure C.
- D. The template for ATP is found in structure D.

10. Within which structure of an animal cell does DNA replication take place?

- A. vacuole
- B. cell membrane
- C. nucleus
- D. ribosome

1.
Answer: D

2.
Answer: Active transport requires the use of energy by the organism.

 In active transport, molecules move from a region of lower concentration to a region of higher concentration of those molecules.

3.
Answer: Set A: protein synthesis OR Set B: respiration

4.
Answer: D

5.
Answer:
 - mitochondrion—release of energy from nutrients, ribosome—protein synthesis, cell membrane—regulates movement of materials into and out of the cell, nucleus—regulates cell functions or carries the genetic code, or vacuole—storage
 - The nucleus contains the code for the enzymes that function in the mitochondrion. The mitochondrion provides energy that is needed by the nucleus.

6.
Answer: C

7.
Answer: C

8.
Answer: B

9.
Answer: C

10.
Answer: C