

# Game Day

Thursday, March 31, 2011  
7:26 AM

Slides

Function	Structure	Transport	Energy	Protein	Mixed
\$100	\$100	\$100	\$100	\$100	\$100
\$200	\$200	\$200	\$200	\$200	
\$300	\$300	\$300	\$300	\$300	
\$400	\$400	\$400	\$400	\$400	
\$500	\$500	\$500	\$500	\$500	

Notes

100 points:

A cell makes proteins in an organelle that is near the center of the cell. It then transports the protein to edge of the cell and sends them into the surroundings to be used by other cells. What three of the basic life functions were employed?

Choose at least one answer.

- a. egestion *x*
- b. respiration *x*
- c. absorption *x*
- d. digestion *x*
- e. movement *✓* Correct. In transporting the proteins to the edges of the cell, it engaged in movement.
- f. biosynthesis *✓* Correct. In making proteins the cell performed biosynthesis.
- g. excretion *x*
- h. secretion *✓* Correct. In sending the material out into the surroundings, it engaged in secretion.

200 points:

The process by which a cell engulfs foreign substances or other cells

Choose one answer.

- a. Phagocytosis *✓* Correct
- b. Plasmolosis *x*
- c. Cytolysis *x*

300 points:

A cell produces a protein that will be used by other cells. When it ejects the protein, has it performed egestion, secretion, or excretion?

Choose one answer.

- a. egestion *x*
- b. excretion *x*
- c. secretion *✓* Correct

Function

400 points:

What is the difference between digestion and respiration? Select the TWO responses that are correct.

- Choose at least one answer.
- a. Respiration breaks down big molecules *x*
  - b. Respiration breaks down small molecules ✓ Correct. You found one.
  - c. Digestion breaks down small molecules *x*
  - d. Digestion breaks down big molecules ✓ Correct. You found one.

500 points:

A cell takes in a polysaccharide, sends it to several organelles, and ends up producing energy. The soluble waste products are eliminated. What 5 of the basic life functions were performed?

- Choose at least one answer.
- a. biosynthesis *x*
  - b. secretion *x*
  - c. absorption ✓ Correct
  - d. egestion *x*
  - e. homeostasis *x*
  - f. excretion ✓ Correct
  - g. movement ✓ Correct
  - h. respiration ✓ Correct
  - i. digestion ✓ Correct. The polysaccharide cannot be used directly. Digestion must be performed.
  - j. irritability *x*

"The motion of cytoplasm in a cell that results in a coordinated movement of the cells contents" is the definition of ...

- Choose one answer.
- a. Cytolysis
  - b. Cytoplasmic streaming
  - c. Phagocytosis
  - d. Isotonic solution

What organelle does rough ER have which smooth ER does not have?

- Choose one answer.
- a. ribosomes
  - b. mitochondria

Even though the ribosomes are considered organelles, they exist in both prokaryotic and eukaryotic cells. A student claims that this contradicts the definition of a prokaryotic cell, because he says that a prokaryotic cell cannot have organelles. Why is the student wrong?

- Choose one answer.
- a. Ribosomes are not membrane bound.
  - b. A ribosome is not an organelle

Lactose intolerant people cannot digest the disaccharide lactose due to the lack on an enzyme. Which organelle in the cells of a lactose-intolerant person does not have what it needs to get its job done?

- Choose one answer.
- a. Golgi body
  - b. Nucleus
  - c. mitochondria
  - d. lysosome
  - e. Cell Membrane

Which organelle is like a warehouse distribution center that stores, addresses, and sends off 'packages' to be delivered.



Structure

\$100

\$200

100

400

\$500

\$500

\$100

"A solution in which the concentration of solutes is essentially equal to that of the cell which resides in the solution" is a definition of ...

- Choose one answer.
- a. tonic solution
  - b. Isotonic solution
  - c. cytoplasmic solution

\$200

The rupturing of a cell due to excess internal pressure

- Choose one answer.
- a. Cytolysis
  - b. Plasmolysis

"Collapse of a walled cells cytoplasm due to a lack of water" is the definition of ...

- Choose one answer.
- a. Phagocytosis
  - b. Plasmolysis
  - c. Cytolysis

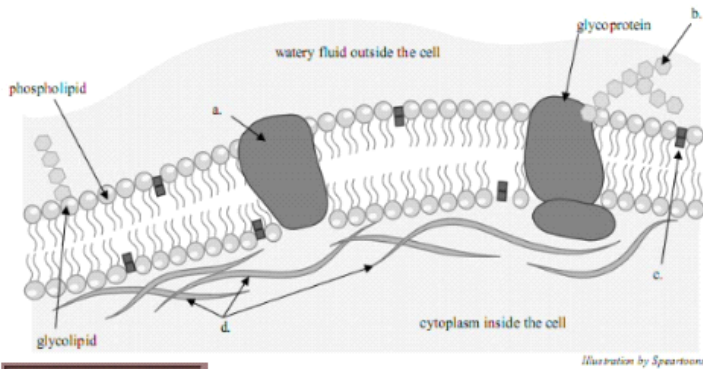
What gives the plasma membrane the ability to self-reassemble?

- Choose one answer.
- a. The membrane has elastin
  - b. phospholipids have a hydrophobic and a hydrophilic end
  - c. The cell wall has proteins that heal the wall

300

\$400

Name the structures identified by letters in the figure below:



Choose  
 protein  
 filaments of the cytoskeleton  
 carbohydrate  
 cholesterol

\$100

"Energy necessary to get a chemical reaction going" is the definition of ...

- Choose one answer.
- a. Activation energy
  - b. Discharge energy

\$200

If a cells mitochondria stop working, can it perform any cellular respiration?

- Choose one answer.
- a. yes
  - b. no

\$300

Which provides more energy per molecule of glucose: respiration in aerobic conditions or respiration in anaerobic conditions?

- Choose one answer.
- a. aerobic
  - b. anaerobic

\$400

What stage in cellular respiration produces the most energy?

- Choose one answer.
- a. electron transport system
  - b. Krebs Cycle
  - c. glycolysis

\$500

Before a polysaccharide can be used in cellular respiration in an animal cell, to what organelle must it be sent?

- Choose one answer.
- a. ribosome
  - b. mitochondria

Transport

Energy

**\$500**

Before a polysaccharide can be used in cellular respiration in an animal cell, to what organelle must it be sent?

- Choose one answer.
- a. ribosome
  - b. mitochondria
  - c. lysosome
  - d. chloroplast

**\$100**

Why is it so important that proteins fold the way they are supposed to?

— shape is key to function.

**\$200**

Which travels out of the nucleus to send the instructions to the Ribosomes. DNA or RNA?

— specifically mRNA

**\$300**

What organelle will read the code and assemble the amino acids into a protein. It comes in two halves.

— ribosomes

**\$400**

What game can be played that helps scientists to better predict the folding of proteins into as compact, but rule obeying, shape as is possible?

— Fold It

An RNA strand has the following sequence of nucleotides:

uracil, adenine, adenine, guanine, cytosine, cytosine

What was the nucleotide sequence in the DNA that it copied?



Choose one answer.

- a. adenine, thymine, thymine, cytosine, guanine, guanine
- b. adenine, uracil, uracil, cytosine, guanine, guanine

Protein

Mixed

A cell's mitochondria cease to function, and the cell has no more energy. Will all the transport across the plasma membrane stop?

Choose one answer.

- a. No
- b. Yes