

Biology Chapter 7 Test: Cellular Structure and Function

Multiple Choice

Identify the choice that best completes the statement or answers the question.

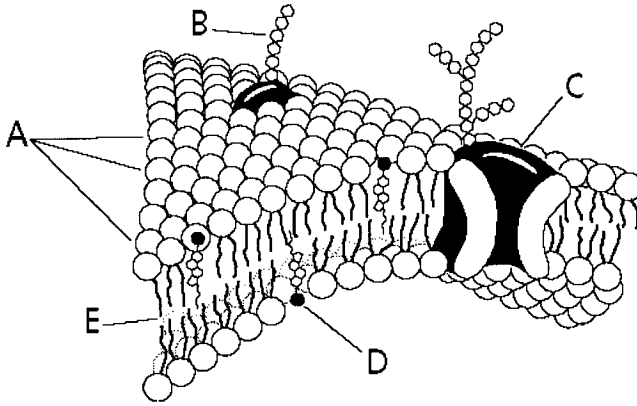


Figure 7-4

- _____ 1. What would happen to the structure in Figure 7-4 if part D is completely removed?
 - a. It would become more rigid.
 - b. It would disintegrate.
 - c. It would have holes in it.
 - d. It would collapse in on itself.
- _____ 2. What did scientists observe using the earliest microscopes.
 - a. atoms
 - b. cell parts
 - c. molecules
 - d. tiny organisms
- _____ 3. An electron microscope can magnify an object about 500,000 times. How does this magnification compare with the magnification of a compound light microscope?
 - a. 500 times lower
 - b. 100 times lower
 - c. 100 times higher
 - d. 500 times higher
- _____ 4. Which statement is a fundamental principle of the cell theory?
 - a. All cells have a plasma membrane.
 - b. Eukaryotic cells are larger than prokaryotic cells.
 - c. Living organisms are composed of cells.
 - d. The genetic material in cells is DNA.
- _____ 5. Which statement is true about bacterial cells?
 - a. The cells are very large.
 - b. The cells have no nucleus.
 - c. They are eukaryotes.
 - d. They have organelles.
- _____ 6. Which is present only in eukaryotic cells?
 - a. cell membrane
 - b. chromosomes
 - c. DNA
 - d. nucleus
- _____ 7. Which substance on the plasma membrane helps identify chemical signals from outside the cell?
 - a. carbohydrate chain
 - b. cholesterol
 - c. membrane protein
 - d. transport protein
- _____ 8. Which organelle converts sugars into energy?
 - a. lysosome
 - b. mitochondrion
 - c. nucleus
 - d. ribosome

9. Cilia and flagella are used to move cells through watery environments. What role do these cell parts play on stationary cells?
- They hold neighboring cells in a fixed position.
 - They move substances along the surface of the cell.
 - They protect the cell by whipping at harmful cells.
 - They transmit waste materials away from the cell.
10. A scientist at the polar ice cap was studying an ice sample from hundred of meters below the surface. While examining the ice, the scientist found some cells from many years ago. Using an electron microscope, the scientist identified these cell structures: a cytoskeleton, mitochondrion, nucleus, cell wall, and ribosomes. What kind of organism did the scientist find?
- animal
 - bacteria
 - plant
 - He did not have enough information.
11. Chloroplasts are organelles that convert light energy to sugars. These organelles are found only in plants. Which organelles are found only in animals?
- golgi apparatus
 - lysosomes
 - mitochondria
 - ribosomes
12. At what point in the process of diffusion is dynamic equilibrium reached?
- when the movement of the molecules stops being random
 - when the molecules are mixed and stop moving
 - when the rate of change in the solution slows by one half
 - when there is continuous movement but no change
13. What is a major difference between facilitated diffusion and active transport?
- Active transport moves substances against the concentration gradient.
 - Active transport uses proteins in the process.
 - Facilitated diffusion moves molecules through the plasma membrane.
 - Facilitated diffusion requires large amounts of energy.
14. Algal cells are placed in an isotonic solution. Additional amounts of solutes are slowly added to the solution. What happens to the cells?
- They will begin to swell.
 - They will burst.
 - They will stay the same.
 - They will shrink.
15. Which of the following is an example of passive transport?
- endocytosis
 - exocytosis
 - facilitated diffusion
 - Na^+/K^+ ATPase pump

Use the Cell Diagram and Organelle Chart to complete the following...

- vacuole
 - mitochondria
 - nucleolus
 - cytoplasm
- vacuole
 - mitochondria
 - nucleolus
 - cytoplasm
- vacuole
 - mitochondria
 - nucleolus
 - cytoplasm
- ER
 - chloroplast
 - plasma membrane
 - golgi apparatus