

Chapter 7 Test Review

Modified True/False

Indicate whether the sentence or statement is true or false. If false, change the identified word or phrase to make the sentence or statement true.

- _____ 1. If a cell contains a nucleus, it must be a prokaryote. _____

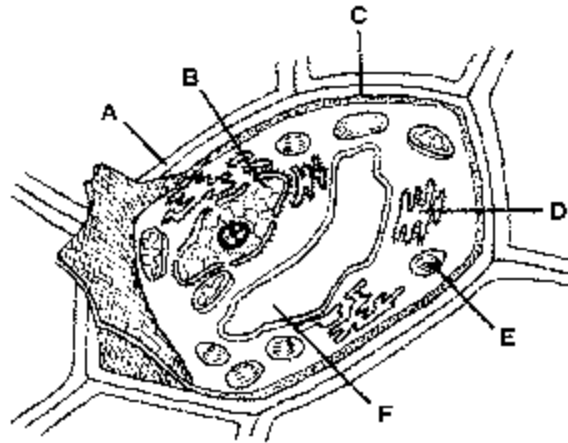


Figure 7-2

- _____ 2. The cell represented in Figure 7-2 is a eukaryote. _____
- _____ 3. The main function of the cell wall is to provide support and protection. _____
- _____ 4. Water, carbon dioxide, oxygen, and some other substances can pass through the cell wall.

- _____ 5. The assembly of ribosomes begins in a small dense structure called the chromatin.

- _____ 6. Cilia and flagella are made of protein filaments called endoplasmic reticulum.

- _____ 7. The cytoskeleton helps to move organelles within the cell. _____
- _____ 8. Ribosomes stud the surface of rough endoplasmic reticulum. _____
- _____ 9. Many membrane proteins are made by the smooth endoplasmic reticulum. _____
- _____ 10. The nuclear envelope regulates which substances enter and leave a cell. _____
- _____ 11. Once equilibrium is reached, roughly equal numbers of molecules move in either direction across a semipermeable membrane, and there is no further change in concentration on either side of the membrane.

- _____ 12. A red blood cell placed in pure water will shrink. _____

- _____ 13. There is a division of labor among the cells of multicellular organisms. _____
- _____ 14. Cell specialization means that the cells in an organism are uniquely suited to reproduce.

- _____ 15. A typical organ is made up of many different kinds of cells and tissues. _____

Multiple Choice

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

- _____ 16. Who was the first person to identify and see cells?
a. Anton van Leeuwenhoek b. Robert Hooke c. Matthias Schleiden d. Rudolf Virchow
- _____ 17. The work of Schleiden and Schwann can be summarized by saying that
a. all plants are made of cells. b. all animals are made of cells. c. plants and animals have specialized cells.
d. all plants and animals are made of cells.
- _____ 18. Which of the following is NOT a principle of the cell theory?
a. Cells are the basic units of life. b. All living things are made of cells. c. Very few cells reproduce. d. All cells are produced by existing cells.

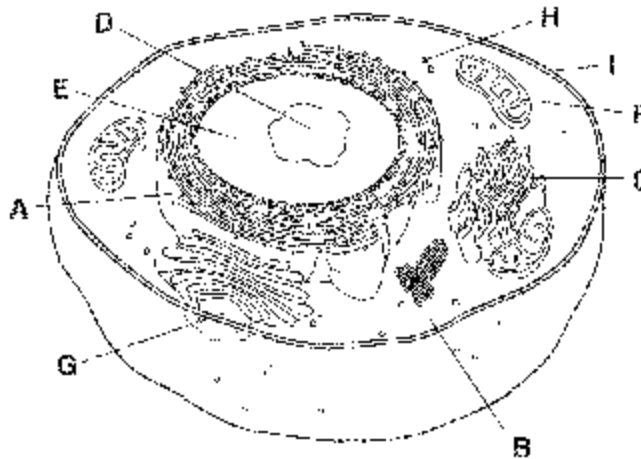


Figure 7-1

- _____ 19. The structure labeled I in Figure 7-1 is a thin, flexible barrier around a cell. It is called the
a. cell membrane. b. cell wall. c. cell envelope. d. cytoplasm.
- _____ 20. Which cell structure contains the cell's genetic material and controls the cell's activities?
a. organelle b. nucleus c. cell envelope d. cytoplasm
- _____ 21. Which structure contains the other?
a. nucleus; cytoplasm b. nucleus; genetic material c. cell membrane; cell wall d. prokaryote; organelles
- _____ 22. Which of the following contains a nucleus?
a. prokaryotes b. bacteria c. eukaryotes d. organelles

- _____ 23. Eukaryotes usually contain
a. a nucleus. b. specialized organelles. c. genetic material. d. all of the above
- _____ 24. The main function of the cell wall is to
a. support and protect the cell. b. store DNA. c. direct the activities of the cell. d. help the cell move.
- _____ 25. Unlike the cell membrane, the cell wall is
a. found in all organisms. b. composed of a lipid bilayer. c. a flexible barrier. d. made of tough fibers.
- _____ 26. You won't find a cell wall in which of these kinds of organisms?
a. plants b. animals c. fungi d. none of the above
- _____ 27. Which of the following is a function of the nucleus?
a. stores DNA b. controls most of the cell's processes c. contains the information needed to make proteins
d. all of the above
- _____ 28. Which of the following is NOT found in the nucleus?
a. cytoplasm b. nucleolus c. chromatin d. DNA
- _____ 29. Which of the following statements explains why the nucleus is important to cells?
a. Only eukaryotes have nuclei. b. Only prokaryotes have nuclei. c. The nucleus contains coded instructions for making proteins. d. The nucleus is surrounded by a nuclear envelope.
- _____ 30. Which of the following is NOT a function of the cytoskeleton?
a. helps the cell maintain its shape b. helps the cell move c. prevents chromosomes from separating
d. helps organelles within the cell move
- _____ 31. Which organelle makes proteins using coded instructions that come from the nucleus?
a. Golgi apparatus b. mitochondrion c. vacuole d. ribosome
- _____ 32. Which organelles help provide cells with energy?
a. mitochondria and chloroplasts b. rough endoplasmic reticulum c. smooth endoplasmic reticulum d. Golgi apparatus and ribosomes
- _____ 33. Which organelle would you expect to find in plant cells but not animal cells?
a. mitochondrion b. ribosome c. chloroplast d. smooth endoplasmic reticulum
- _____ 34. Which of the following structures serves as the cell's boundary from its environment?
a. mitochondrion b. cell membrane c. chloroplast d. channel proteins
- _____ 35. The cell membrane contains channels and pumps that help move materials from one side to the other. What are these channels and pumps made of?
a. carbohydrates b. lipids c. bilipids d. proteins
- _____ 36. Diffusion is the movement of molecules from
a. an area of low concentration to an area of high concentration. b. an area of high concentration to an area of low concentration. c. an area of equilibrium to an area of high concentration. d. all of the above
- _____ 37. Diffusion occurs because
a. molecules constantly move and collide with each other. b. the concentration of a solution is never the same throughout a solution. c. the concentration of a solution is always the same throughout a solution. d. molecules never move or collide with each other.

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- _____ 38. When the concentration of molecules on both sides of a membrane is the same, the molecules will
a. move across the membrane to the outside of the cell. b. stop moving across the membrane. c. move
across the membrane in both directions. d. move across the membrane to the inside of the cell.
- _____ 39. The cells of multicellular organisms are
a. smaller than those of unicellular organisms. b. simpler than those of unicellular organisms. c. specialized
to perform particular functions. d. not dependent on one another.
- _____ 40. Which of the following is an example of an organ?
a. heart b. epithelial tissue c. digestive system d. nerve cell
- _____ 41. All of the following are types of tissues EXCEPT
a. muscle. b. connective. c. digestive. d. nerve.
- _____ 42. A group of cells that perform similar functions is called a(an)
a. organ. b. organ system. c. tissue. d. division of labor.
- _____ 43. Which of the following is an organ of the digestive system?
a. stomach b. nerve tissue c. muscle cell d. epithelial tissue
- _____ 44. An organ system is a group of organs that
a. are made up of similar cells. b. are made up of similar tissues. c. work together to perform a specific
function. d. work together to perform all the functions in a multicellular organism.
- _____ 45. Which list represents the levels of organization in a multicellular organism from the simplest level to the most
complex level?
a. cell, tissue, organ system b. organ system, organ, tissue, cell c. tissue, organ, organ system d. cell, tissue,
organ, organ system

Completion

Complete each sentence or statement.

46. During cell division, chromatin condenses to form _____, which are threadlike
structures containing genetic material.

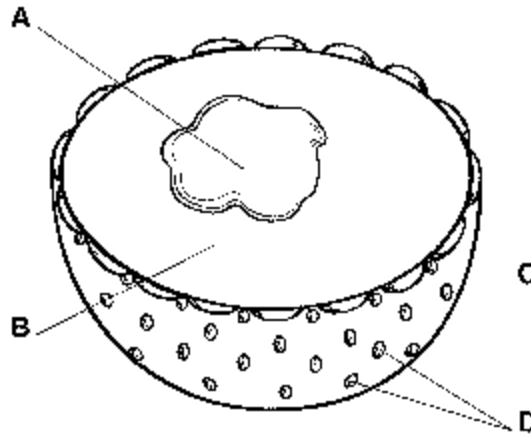


Figure 7-3

47. RNA and other molecules leave the nucleus through the structure labeled _____ in Figure 7-3.
48. Unlike smooth endoplasmic reticulum, rough endoplasmic reticulum has _____ attached to it.

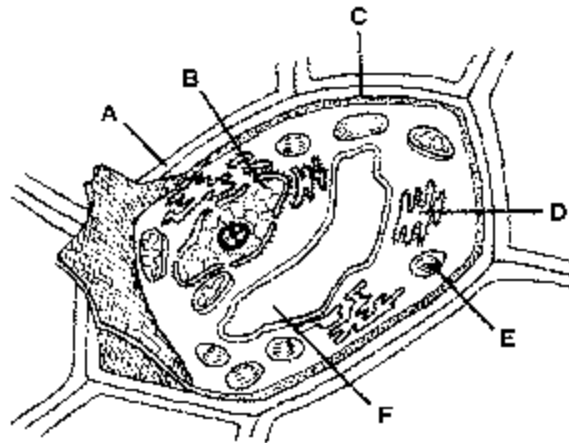


Figure 7-2

49. The structure indicated in Figure 7-2 by the letter F is usually larger in _____ cells.
50. The cell takes in food and water and eliminates wastes through the _____.