Test: Cell Structure and Function

Interpreting Diagrams Use the terms listed in the box to label the diagram below. Write your answers in the spaces provided. Then, answer the questions.

**TERMS**
cell membrane
cell wall
chloroplast
nucleus
vacuole

1. ____________________________________________
2. ____________________________________________
3. ____________________________________________
4. ____________________________________________
5. ____________________________________________

6. What kind of cell is shown in Part A of the diagram? ____________________________________________
7. What kind of cell is shown in Part B of the diagram? ____________________________________________
8. What are three jobs of the cell membrane? ____________________________________________________

__________________________________________________________________________________________
__________________________________________________________________________________________

9. What part of the cell is made up of cellulose? _________________________________________________
10. What part of the cell is needed to make food? ________________________________________________

Multiple Choice Write the letter of the term or phrase that best completes each statement in the spaces provided.

______ 1. A scientific tool that makes objects appear larger than they really are is a
  a. scale. b. thermometer. c. balance. d. microscope.

______ 2. A piece of curved glass that causes light rays to come together or spread apart as they
  pass through is a
  a. lens. b. meter stick. c. balance. d. microscope.

______ 3. The basic unit of structure and function in living things is the
  a. nucleus. b. membrane. c. cell. d. chloroplast.
Test: Cell Structure and Function  (continued)

4. The thin structure that surrounds a cell is known as
   a. a nucleus.  b. a cell membrane.  c. cytoplasm.  d. a vacuole.

5. The control center of a cell is the
   a. cell wall.  b. organelles.  c. cytoplasm.  d. nucleus.

6. All the living material inside a cell, except the nucleus, makes up the
   a. cytoplasm.  b. membranes.  c. vacuole.  d. mitochondria.

7. The movement of material from a more crowded area to a less crowded area is called
   a. osmosis.  b. photosynthesis.  c. respiration.  d. diffusion.

8. Small, round structures in a cell that make proteins are known as
   a. cellulose.  b. ribosomes.  c. vacuoles.  d. mitochondria.

9. The movement of water through a membrane is called
   a. diffusion.  b. synthesis.  c. osmosis.  d. photosynthesis.

10. The process by which cells reproduce is
    a. diffusion.  b. osmosis.  c. cell division.  d. respiration.

11. The cell structures that break down food to produce energy are the
    a. ribosomes.  b. mitochondria.  c. vacuoles.  d. chloroplasts.

12. The cell structures that break down nutrient molecules and old cell parts are known as
    a. ribosomes.  b. lysosomes.  c. vacuoles.  d. chloroplasts.

13. The small network of tubes that makes proteins in the cell is known as the
    a. lysosomes.  b. mitochondria.  c. vacuoles.  d. endoplasmic reticulum.

14. Animal cells have all of the following except
    a. ribosomes.  b. mitochondria.  c. vacuoles.  d. a cell wall.

15. The specialized cells that carry information throughout the body are known as
    a. white blood cells.  b. red blood cells.  c. nerve cells.  d. guard cells.

16. The movement of materials through a membrane without the use of energy is known as
    a. passive transport.  b. photosynthesis.  c. active transport.  d. fermentation.

17. The nucleus of a cell divides by the process of
    a. mitosis.  b. osmosis.  c. diffusion.  d. respiration.

18. Oxygen is carried throughout the body by
    a. white blood cells.  b. red blood cells.  c. guard cells.  d. bone cells.

19. All of the following are types of organelles except
    a. ribosomes.  b. cell walls.  c. mitochondria.  d. vacuoles.

20. All of the following are found only in plant cells except
    a. vacuoles.  b. cell walls.  c. chlorophyll.  d. chloroplasts.
Test: Cell Structure and Function  (continued)

Written Response  Answer the following questions.

21. **COMPARE:** Explain how the shapes of various cells help each different type of cell to carry out its function within the body.

___________________________________________________________________________________________

___________________________________________________________________________________________

22. **CONTRAST:** What are the differences between active transport and passive transport?

___________________________________________________________________________________________

___________________________________________________________________________________________

___________________________________________________________________________________________
Answer Key

Test: Cell Structure and Function
Interpreting Diagrams
1. cell wall  2. cell membrane  3. vacuole  4. nucleus
5. chloroplast  6. animal cell  7. plant cell
8. protects the cell, supports the cell and gives it shape, controls movement of materials into and out of the cell.
9. cell wall  10. chloroplasts

Multiple Choice
1. d  2. a  3. c  4. b  5. d  6. a  7. d  8. b  9. c  10. c
19. b  20. a

Written Response
21. Red blood cells have a concave shape that helps them to carry oxygen molecules. Nerve cells have extensions that connect to other nerve cells to make an information network. Amoeba cells have an irregular shape that allows them to surround food to digest. Guard cells are shaped to help open and close plant stomata.

22. Active transport is the movement of materials through a membrane that requires energy to move molecules in the opposite direction of the way molecules move naturally. Passive transport is the movement of materials through a membrane that does not require energy because the molecules are moving through holes in the cell membrane until the same number of molecules are on both sides of the cell membrane.