

## **Cell Structure and Function Study Guide**

1. How many cells would you expect to find in a multicellular organism?
2. List the size of cells in order of largest to smallest. (Use animal, plant, and bacterial)
3. What materials is the cell membrane composed of?
4. What does hydrophobic mean?
5. What is the main component in the cell wall of a plant? (Name of sugar found there).
6. The cell theory states that all organisms are made of cells; cells are the most basic unit of life; and  
\_\_\_\_\_.
7. What is the term for the jelly-like substance that is contained inside the cell membrane?
8. Unlike a eukaryotic cell, a prokaryotic cell does not have \_\_\_\_\_.
9. Specialized structures that work together inside a cell are called  
\_\_\_\_\_.
10. What is the term for a network of proteins that supports and gives shape to a cell?
11. What is the main function of the Golgi apparatus?
12. What organelle can be found in the cytoplasm and on the surface of the endoplasmic reticulum?
13. What organelle contains enzymes that break down damaged cell parts?
14. What is the main difference between plant and animal cells?
15. Which organelle is the storehouse for most of the cell's genetic information?
16. What organelle would you expect to find on the rough endoplasmic reticulum?
17. Which organelle supplies energy to the cell?
18. What organelle would you expect to find in a plant cell but not an animal cell?
19. What process takes place in the chloroplast?
20. What is the function of the mitochondria?
21. What two organelles to plant cells possess that animal cells do not have?

22. What organism does NOT have a cell wall?
23. All living things are made up of \_\_\_\_\_.
24. In a chloroplast, the stacks of membranes are called \_\_\_\_\_.
25. What organelle controls what enters and leaves the cell?
26. What organelle has the function of protecting and supporting the cell?
27. What organelle surrounds the nucleus?
28. When cells are not dividing, DNA is spread out as what?
29. What is the function of the nucleolus?
30. What organelle is responsible for pulling the chromosomes apart during cell division?
31. What organelle is the site of cellular respiration?
32. The inner folded membrane of a mitochondria is called \_\_\_\_\_.
33. What organelle is responsible for making membrane proteins and proteins for EXPORT out of the cell?
34. What organelle is the site of protein synthesis?
35. What organelle is responsible for modifying, packaging, and sorting molecules from the ER for storage and transport out of the cell (Hint: post office)?
36. Name the individual
  - a. Responsible for viewing thin slices of cork under a microscope and giving cells their name
  - b. Was the first individual to view living organisms under a microscope and called them “animalcules”
  - c. Was the first individual to determine that plant cells were made from cells
  - d. Was responsible for the portion of the cell theory that states all living things are made up of cells
  - e. Was responsible for viewing cells dividing under a microscope

37. Label the following cell below. Use the word bank below to label the cell.

Cell Membrane  
Golgi Body  
Mitochondria

Lysosome  
Rough ER  
Ribosomes

Smooth ER  
Cytoplasm  
Nucleus

Nucleolus  
Nuclear membrane  
Vacuole

