

Name \_\_\_\_\_ Date \_\_\_\_\_

## CELL AND THEIR ORGANELLES

*The cell is the basic unit of life. The following is a glossary of animal cell terms. All cells are surrounded by a cell membrane. The cell membrane is semi-permeable, allowing some substances to pass into the cell and blocking others. It is composed of a double layer of phospholipids and embedded proteins. Color and label the cell membrane tan. Plant cells have an additional layer surrounding them called the cell wall. The cell wall is made of nonliving material called cellulose.*

*Color and label the cell wall brown. The centrosome (also called the "microtubule organizing center") is a small body located near the nucleus. The centrosome is where microtubules are made. During cell division (mitosis), the centrosome divides and the two parts move to opposite sides of the dividing cell. The centriole is the dense center of the centrosome. Only animal cells have centrosomes. Color and label the centrioles purple. Microtubules are shaped like soda straws and give the nucleus and cell its shape. Label the microtubules inside the nucleus.*

1. At what level of organization does life begin? **cell**
2. What surrounds all cells? **cell membrane**
3. What is meant by semipermeable? **allowing some substances to pass into the cell and blocking others**
4. What 2 things make up the cell membrane? **phospholipids and embedded proteins**
5. The cell membrane is also called the **plasma** membrane.
6. Centrioles are found inside of what type of cell? **animal**
7. What additional layer is found around the outside of plant cells and bacteria? **cell wall**
8. Centrioles are found at the center of the centrosome. How do they help the cell?  
**microtubules are made**

*The nucleus in the center of a cell is a spherical body containing the nucleolus that makes ribosomes. The nucleus controls many of the functions of the cell (by controlling protein synthesis). It also contains DNA assembled into chromosomes. The nucleus is surrounded by the nuclear membrane. Color and label the nucleolus dark blue, the nuclear membrane yellow, and the nucleus light blue. Materials can move from the nucleus to the cytoplasm through nuclear pores in the membrane around the nucleus. Label the nuclear pores. Cytoplasm is the jellylike material outside the cell nucleus in which the organelles are located. 2 Color and label the cytoplasm pink. All cells, even prokaryotes contain small bodies called ribosomes. Label the ribosomes. Proteins are made here by a process called protein synthesis.*

9. Where is DNA found inside a cell? **nucleus**
10. What cell process is controlled by the nucleus? **protein synthesis**
11. DNA coils tightly during division and assembles into visible **chromosomes**.
12. Where are organelles located? **cytoplasm**
13. Where are proteins made in a cell? **ribosomes**
14. Do all cells need ribosomes? **yes**
15. The process of making proteins is called **protein synthesis**.