

\_\_\_\_\_ is made up of billions of cells! Date:

## Cells and their organelles

Read and follow the directions below.

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 surround them called the **cell wall**. The cell wall is made of nonliving material called cellulose, a complex carbohydrate. *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, **centrioles**, move to opposite sides of the dividing cell. Centrosomes and centrioles are only found in animal cells. *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. What surrounds all cells?
2. What is meant by semipermeable?
3. What two types of molecules make up the majority of the cell membrane?
4. The cell membrane is also called the p \_ \_ \_ \_ \_ membrane.
5. What additional layer is found around the outside of plant cells and bacteria?
6. Centrioles are found inside of what type of cell?
7. Centrioles are found at the center of the c \_ \_ \_ \_ \_ . How do they help the cell?

The **nucleus** in the center of the cell contains a spherical body, the **nucleolus** that makes **ribosomes**. The nucleus controls many of the functions of the cell (by controlling proteinsynthesis). It also contains **DNA** assembled into **chromosomes** in a dividing cell. Both plant and animal cells have double membranes and their own DNA.