

## Unit 1: Cell Review

### 1. State which cell (animal/plant) this structure is found in as well as its function:

	<u>Location</u>	<u>Function</u>
Cell Membrane	found in both plants/animals	decides what moves in and out of the cell
Cell Wall	plants only	Provides support and structure
Vacuole	both plants and animals	stores food and water
Chloroplast	plants only	green pigment in plants
Nucleus	both plants/animals	control center of the cell
Nucleolus	both plants/animals	makes proteins
Cytoplasm	both plants/animals	jelly like substance that holds all the organelles in place
Centriole	animals only	used for reproduction
Mitochondria	both	provides the cell with energy
Endoplasmic Reticulum	both	the highway system
Ribosome	both	creates proteins

### 2. Fill in the blanks (cell review)

The passage of water in and out of cells is called osmosis.

In mitosis cells identical to the parent cell are formed.

Each human body contains two sets of 23 chromosomes.

The shape of a cell is adapted to its function.

Meiosis has two (2) cell division (s).

Chromosome numbers are halved during Meiosis.

When there are more solutes outside the cell than inside the cell the cell will expand.

Where there are less solutes inside the cell than outside the cell the cell will shrink.

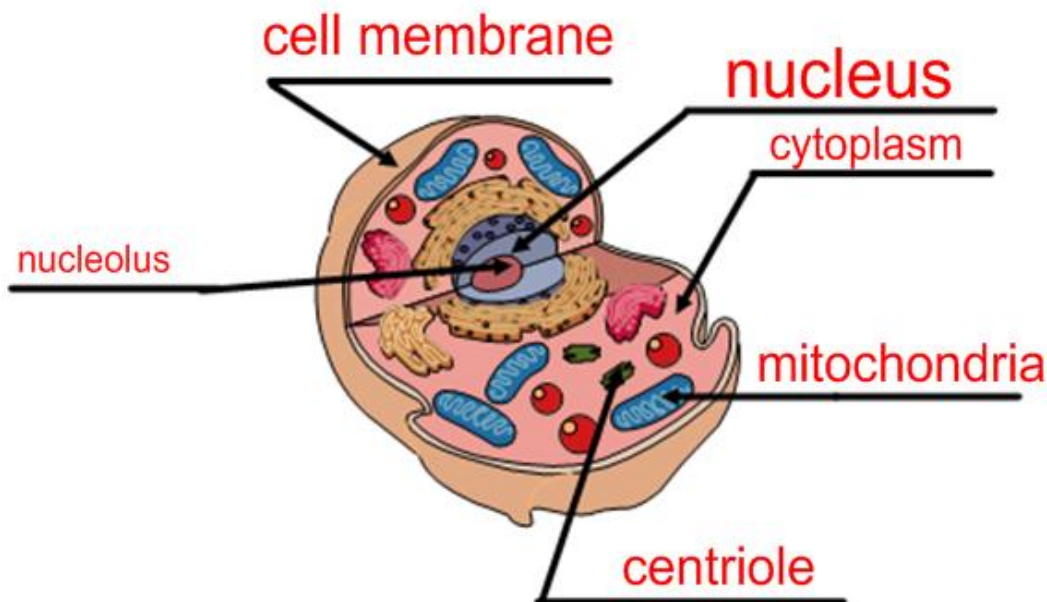
The original cell in reproduction is called a parent cell.

The end product in cellular reproduction is called the daughter cell.

Size and shape decide what moves through a cell membrane.

The passage of molecules in and out of cell is called diffusion.

### 3. Label each part of the cell by filling in the blank spaces.



4. Place the following in the correct order by placing the numbers 1,2,3,4.... In the space provided

3 paired chromosomes are pulled apart on opposite ends of the cell

1 chromosomes pair

4 cell divides into 2 daughter cells

2 paired chromosomes line up in middle

5. Answer each of the following questions by placing a T or an F in the space provided.

- |   |          |
|---|----------|
| a. A cell is the basic unit of structure and function in living things. | <u>T</u> |
| b. Botanists study cells  | <u>F</u> |
| c. Ribosomes are the storage bins of the cell.                          | <u>F</u> |
| d. Meiosis results in two cells that have identical chromosomes         | <u>F</u> |
| e. The cell membrane is a nonliving part of the cell.                   | <u>F</u> |
| f. Mitochondria help to make proteins in the cell                       | <u>F</u> |

6. Answer each of the following short answer questions:

- a. Describe what happens when a normal cell is placed in a concentrated (*lots of sugar*) solution.  
Does water move in or out?

When a normal cell is placed in a lot of sugar solution the water will move out of the cell to a less concentrated area causing the cell to shrink.

- b. Describe what happens when a normal cell is placed in a very dilute (*lots of water*) solution.  
Does water move in or out?

When a normal cell is placed in a solution with a lot of water the water will move into the cell causing it to expand.

- c. How is meiosis different from mitosis?

Meiosis is different than mitosis because meiosis occurs in only reproductive cells and mitosis occurs in all other cells. Meiosis results in four gametes because it undergoes two cellular divisions. Mitosis only undergoes one cell division resulting in two daughter cells. In meiosis the chromosome numbers are halved whereas in mitosis the chromosome numbers stay the same.