

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



### Major Organelles and Their Functions Matching

*Directions: Write the correct term with the corresponding definition*

Vacuole      Cell Membrane      Cytoplasm      Mitochondria      Chloroplasts      Nucleolus  
Golgi apparatus      Ribosomes      Cell Wall      Lysosomes      Endoplasmic Reticulum (rough)  
Endoplasmic Reticulum (smooth)      Nucleus      Vesicles      Centrioles      Peroxisomes

**(Cell Membrane)** Found in all cells, separating the interior of the cell from the outside environment. Consists of a lipid bilayer that is semipermeable. Responsible for the regulation of materials entering and exiting the cell.

**(Chloroplasts)** Specialized plant organelle responsible for photosynthesis, the process that harvests light to make ATP, NADPH, O<sub>2</sub>.

**(Peroxisomes)** Oxidative organelles that form or decompose hydrogen peroxide. Its main role is to use oxidative enzymes to break down fatty acids and amino acids to assist in several metabolic reactions.

**(Nucleolus)** an organelle within the nucleus that has a key role in the majority of transcription and processing of ribosomal RNA within the cell. Seen as the ribosome assembly plant.

**(Mitochondria)** Organelles that generate most of the chemical energy the cell needs in the form of ATP. Contain their own small circular chromosomes inherited from the mother.

**(Vacuole)** Found in both animal and plant cells. In animal cells they are usually small and handle waste products and water. In plants, sometimes it can take up most of the interior space of a cell and maintain the cell's water balance.

**(Lysosome)** Contains digestive enzymes to break down excess or broken cell parts.

**(Cell Wall)** Not found in animal cells it provides another layer of protection outside of the cell membrane. Provides tensile strength and helps ward off osmotic stress.

**(Golgi apparatus)** Used to further modify and distribute proteins and lipids from the ER. These modified proteins are then destined to be shipped somewhere else in the cell or exported outside the cell membrane. This is the organelle that conducts most of the post-translational modifications in a eukaryotic cell.

**(Nucleus)** The control center of the cell, it regulates the activities of the cell such as growth and metabolism. Carries the genes used to encode everything that makes up the cell.

**(Ribosomes)** An RNA and protein assembly that serves as the site of protein synthesis in the cell. Used to convert RNA into amino acids through a process called translation.

**(Vesicles)** Membrane envelopes that transport materials throughout the cell.

**(Cytoplasm)** Gel-like fluid that is the medium for most reactions in the cell. It also provides a platform upon which other organelles can exist within the cell.

**(Smooth ER)** This ER lacks ribosomes and helps synthesize and concentrate various substances needed by the cell.

**(Rough ER)** This ER sits on top of the nuclear envelope and is loaded with many ribosomes to quickly make most of the proteins needed by the cell.

**(Centrioles)** Paired barrel-shaped organelle located near the nucleus. Organizes microtubules that make up parts of the cytoskeleton. Play an important role in cell division (mitosis) by using the cytoskeleton to pull chromosomes apart.