

Name _____

Period _____

Cell Organelles – Study Chart

Organelle	Plant/Animal or both	Job / Function
Cell Wall	Plants, Fungi, some ANIMALS	Provides cell structure, the shape of the cell and serves as a protective barrier. In plants, wall is made of cellulose. Bacterial cell walls are made of peptidoglycan.
Chloroplast	Plants, some ANIMALS	Uses the energy from sunlight to form glucose molecules from CO ₂ and H ₂ O. Glucose is an energy (SUGAR) molecule.
Nucleus	All Eukaryotes	Protective container for the cell's DNA. DNA codes for the nucleus, but messenger RNA can be sent to other parts of the cell.
Ribosomes	ALL CELLS	Protein synthesis found in ALL cells. Builds proteins by putting together long chains of amino acids according to the mRNA message (a copy of a piece of DNA). Thousands in each cell.
Mitochondria	All Eukaryotes	Powerhouse of the cell. Converts glucose into ATP, an energy molecule used to drive many chemical reactions in the cell.
Cell Membrane	ALL CELLS	Controls what materials are allowed to enter and exit the cell. Also called the Plasma Membrane. Made of a mix of phospholipid molecules that separate from the water based on the cell.
Cytoplasm (S.A. Cytosol)	ALL CELLS	The liquid that fills the cell. Contains lots of proteins and chemical ions that are involved in many cell reactions.
Vacuole	All Eukaryotes	Basically, a membrane enclosed sac that can be filled with anything the cell needs to keep separate. Stores food, water, etc. In plants the vacuole also helps the cell maintain its rigidity.
Golgi Body	All Eukaryotes	Releases products from the ER and adds final modifications. It also sorts these products and sends them to their final destinations.
Lysosomes	All Eukaryotes	A membrane enclosed bag of digestive juices. Breaks down large molecules and old cell parts into their components that can be recycled in building new cell parts.
Rough ER	All Eukaryotes	Large folded membrane system studded with ribosomes. Ribosomes build proteins and the ER helps fold or modify them. Products are stored in the Golgi.
Smooth ER	All Eukaryotes	Large folded membrane system. It's important lipid and is important in making new membranes.
Microtubules & Microfilaments	All Eukaryotes	Long tubes or cord like structures that provide the cell's internal structure and allow cell movement. Other organelles are anchored in this network called the cytoskeleton. Work together in muscle contraction, and the motion of cilia and flagella.