

Name \_\_\_\_\_

Period \_\_\_\_\_

### Cell Organelles – Study Chart

Organelle	Plant/Animal or both	Job / Function
<b>Cell Wall</b>	Plants, Prokaryotes, NOT ANIMALS	Provides and maintains the shape of the cell and serves as a protective barrier. In plants, wall is made of <b>cellulose</b> . Bacterial cell walls are made of <b>peptidoglycan</b> .
<b>Chloroplast</b>	Plants, NOT ANIMALS	Uses the energy from sunlight to form glucose molecules from CO <sub>2</sub> and H <sub>2</sub> O. Glucose is an energy STORAGE molecule.
<b>Nucleus</b>	All Eukaryotes	<b>Protective container for the cell's DNA</b> . DNA never leaves the nucleus, but messages (mRNA) can be sent to other parts of the cell.
<b>Ribosomes</b>	ALL CELLS	Smallest organelle found in ALL cells. <b>Builds proteins</b> by putting together long chains of Amino Acids according to the mRNA message (a copy of a piece of DNA). Thousands in each cell.
<b>Mitochondria</b>	All Eukaryotes	<b>Powerhouse of the cell</b> . Converts glucose into ATP, an energy molecule used in almost every reaction the cell does.
<b>Cell Membrane</b>	ALL CELLS	<b>Controls what molecules are allowed in and out of the cell</b> . Also called the Plasma Membrane. Made of a sea of phospholipids molecules that together form the outer barrier of the cell.
<b>Cytoplasm (A.K.A. Cytosol)</b>	ALL CELLS	<b>The liquid that fills the cell</b> . Contains lots of proteins and dissolved ions that are involved in many cell reactions.
<b>Vacuole</b>	All Eukaryotes	Basically, a membrane enclosed sac that can be filled with anything the cell needs to keep separate. <b>Stores food, water, etc.</b> In plants the vacuole also helps the cell maintain its rigidity.
<b>Golgi Body</b>	All Eukaryotes	Receives products from the ER and adds final <b>modifications</b> . It also <b>sorts</b> these products and <b>sends</b> them to their final destinations.
<b>Lysosomes</b>	All Eukaryotes	A membrane enclosed bag of digestive juices. <b>Breaks down large molecules</b> and old cell parts into their components that can be <b>recycled</b> to build new cell parts
<b>Rough ER</b>	All Eukaryotes	Large folded membrane system studded with ribosomes. <b>Ribosomes build proteins and the ER helps fold or modify them</b> . Products are shipped to the Golgi.
<b>Smooth ER</b>	All Eukaryotes	Large folded membrane system. <b>Puts together lipids</b> and is important in making new membranes.
<b>Microtubules &amp; Microfilaments</b>	All Eukaryotes	Long tubes or cord-like structures <b>that provide the cell's internal structure and allow cell movement</b> . Other organelles are anchored to this network called the cytoskeleton. Work together in muscle contraction, and the motion of cilia and flagella