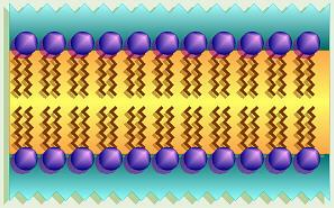


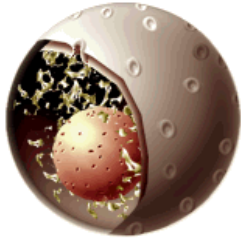


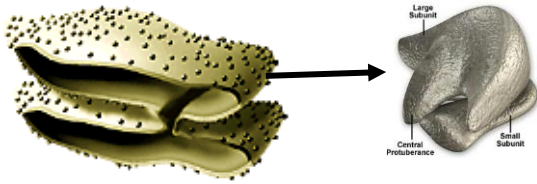
Cell Structure and Function Manipulative Cards

 A diagram showing a cross-section of a phospholipid bilayer. It consists of two layers of phospholipids. Each phospholipid has a blue spherical head and two yellow wavy tails. The heads of the top layer face each other, and the heads of the bottom layer face each other, with the tails of both layers pointing toward each other in the center.	<p>Barrier that surrounds all cells. Made of a double layer (a bilayer) of phospholipids.</p> <p>Found in ALL cells</p>	<p>Plasma (Cell) Membrane</p>
 A 3D illustration of a mitochondrion, shown in a reddish-brown color. It has an outer membrane and a highly folded inner membrane that forms numerous cristae, giving it a bean-like shape with internal folds.	<p>Burns sugar (glucose) for fuel in the process of cellular respiration. Often referred to as the "engine" or "powerhouse" of the cell.</p> <p>Found in all eukaryotic cells, usually several or many per cell.</p>	<p>Mitochondria</p>
 A 3D illustration of a chloroplast, shown in green. It has an oval shape with a double membrane and internal stacks of thylakoids called grana, which are connected by wavy membranes.	<p>Converts light energy (from the sun) to chemical energy via the process of photosynthesis. (found only in PLANT cells!)</p>	<p>Chloroplast</p>



Contains the genetic material which chemically directs all of the cell's activities.
Only found in **eukaryotic** cells.

Nucleus



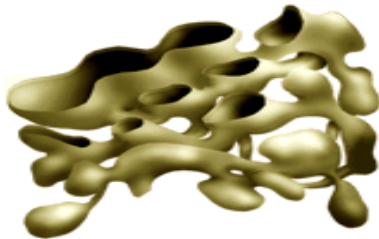
Special organelles that are directly involved in protein synthesis. Found on the surface of the Rough ER and within the cytoplasm of the cell.
Found in **ALL** eukaryotic cells.

Ribosome



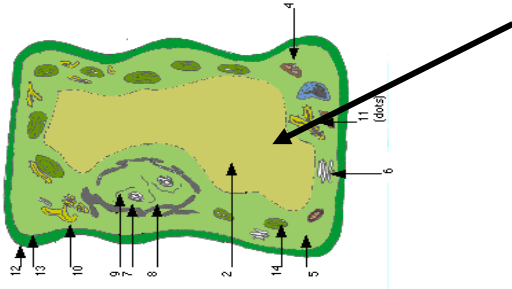
Transports chemicals between and within cells. This organelle is associated with ribosomes.
Found in **ALL** eukaryotic cells.

Rough ER



Transition area where chemicals like proteins the cell has manufactured are stored for transportation elsewhere in the cell.
Found in **ALL** eukaryotic cells.

Smooth ER



This is a storage organelle. Plant cells generally have one large one that takes up most of the space within the cell and is used for storage of all sorts of molecules.

Found in **ALL** eukaryotic cells, but plant cell vacuoles are much bigger than animal cells.

Vacuole



They are the shipping and receiving department of the cell. Materials are received as **vesicles** and are then sent elsewhere as other **vesicles** pinch off. Materials are temporarily stored here, and some further chemical reactions do take place there.

Found in **ALL** eukaryotic cells.

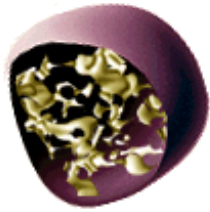
Golgi Apparatus



Its purpose is to maintain the cell's shape. It acts as both a skeleton and a muscle. Two structures composed of this organelle are flagella and cilia.

Found in **ALL** eukaryotic cells.

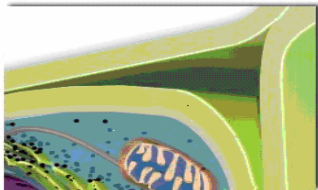
Cytoskeleton



Contains digestive enzymes to break down large molecules and cell parts.

Found in **ALL** eukaryotic cells.

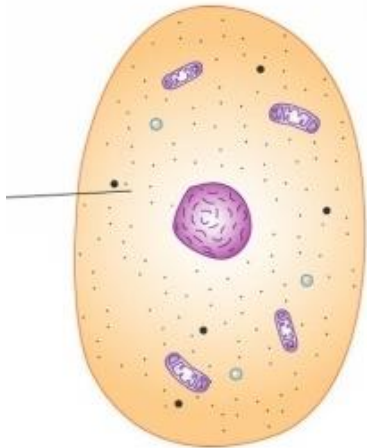
Lysosomes



This structure is rigid and gives plant cells a very defined shape.

Found in **PLANT** cells only.

Cell Wall

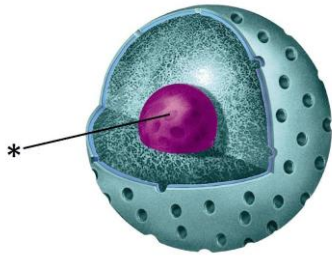


The jelly-like liquid in which the other organelles float.

Found in **ALL** cells.

Cytoplasm

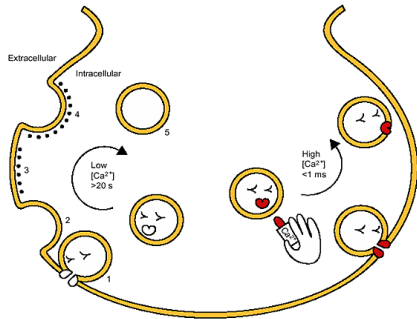
The Nucleus



Produces ribosomes.

Found in **ALL** eukaryotic cells.

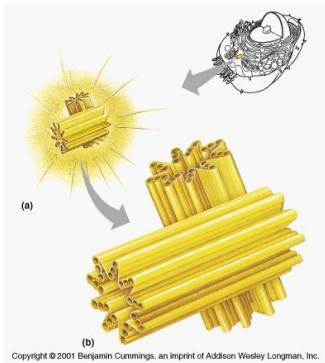
Nucleolus



Transports molecules around the cell. Very closely related to the Golgi apparatus.

Found in **ALL** eukaryotic cells.

Vesicle



Organizes cytoskeleton and aids in cell division.

Usually found in **animal** cells only.

Centrioles