

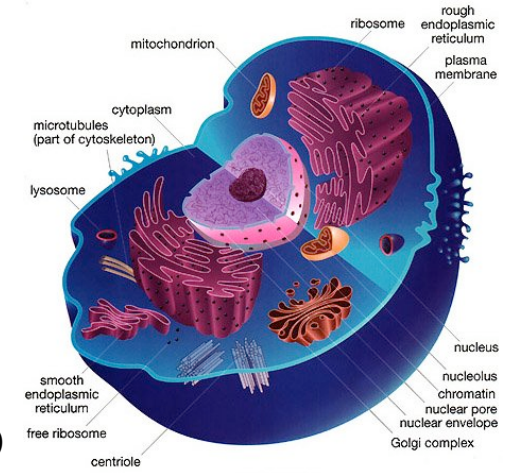
# Cell Organelle Notes

• **Two types of Eukaryotic Cells:**

1. \_\_\_\_\_ 2. \_\_\_\_\_

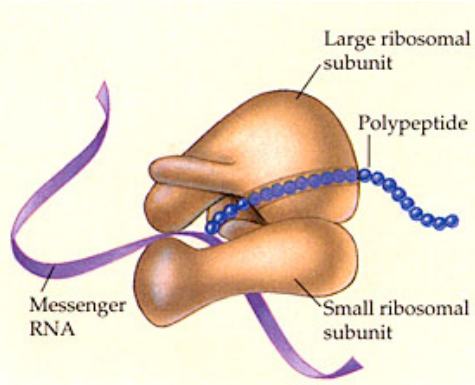
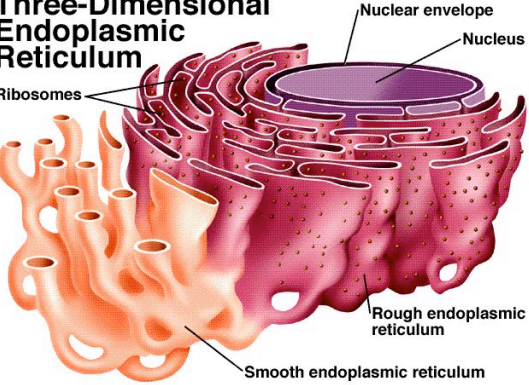
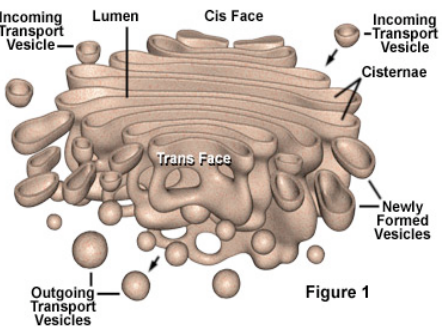
• **Organelles: "\_\_\_\_\_"**

- Specialized structures that \_\_\_\_\_ specific \_\_\_\_\_ in the cell
- Found only in \_\_\_\_\_ cells
- Many are membrane-\_\_\_\_\_ (a membrane surrounds the organelle)
  - \_\_\_\_\_: watery matrix that organelles float in
  - \_\_\_\_\_: everything in a cell except the nucleus (cytosol + all organelles)

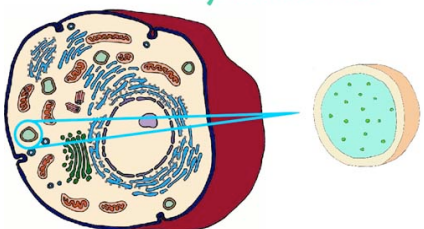
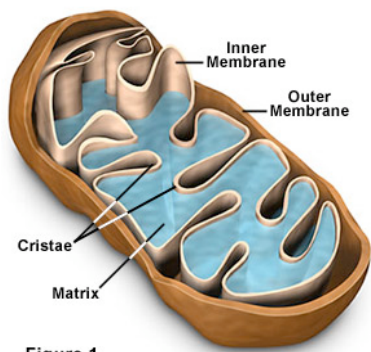
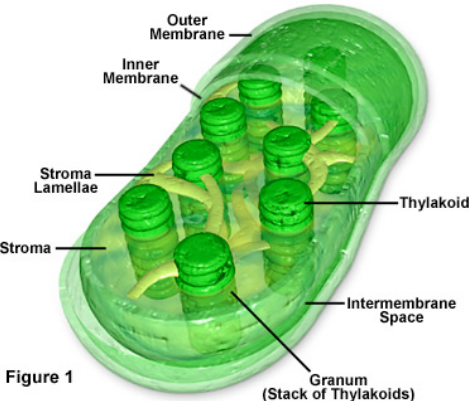


Organelle	Function	Picture	Factory Part	Plant, Animal, or Prokaryote?
<p><b>Cell membrane</b></p> <p>Also called: <b>Plasma Membrane</b></p>	<ul style="list-style-type: none"> <li>• _____ the cell and decides what comes _____ and _____</li> <li>• _____: allows nutrients in and waste products out</li> <li>• Made up of a _____ bilayer</li> </ul>	<p style="text-align: center; color: red;">Cell Membrane</p>		Plant <input type="checkbox"/> Animal <input type="checkbox"/> Prokaryote <input type="checkbox"/>
<p><b>Nucleus</b></p> <p><b>Nuclear Membrane</b></p> <p><b>Nucleolus</b></p>	<ul style="list-style-type: none"> <li>• _____ center of cell</li> <li>• Stores _____ (chromosomes)</li> <li>• Surrounded by the nuclear membrane (pores let materials in and out)</li> <li>• Also contains the _____, which makes ribosomes</li> </ul>	<p style="text-align: center;">The Cell Nucleus</p> <p style="text-align: center;">Figure 1</p>		Plant <input type="checkbox"/> Animal <input type="checkbox"/> Prokaryote <input type="checkbox"/>

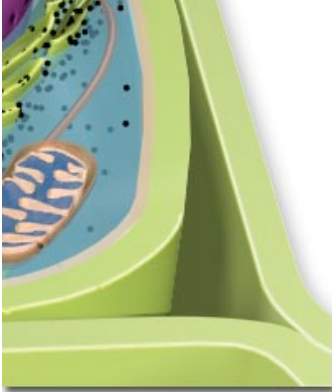
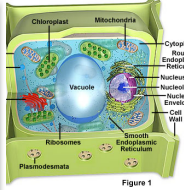
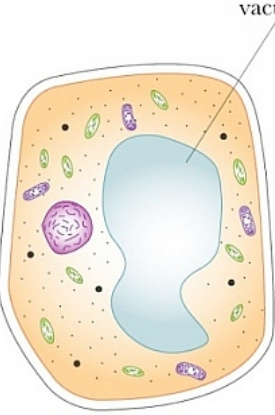
## Cell Organelle Notes

<p><b>Ribosomes</b></p> <p style="text-align: center;">Free Bound</p>	<ul style="list-style-type: none"> <li>• Smallest organelle</li> <li>• NOT surrounded by a _____</li> <li>• Makes _____ according to _____ instructions</li> <li>• <b>Free ribosomes:</b> Float free in _____</li> <li>• <b>Bound ribosomes:</b> Attached to Rough ER</li> </ul>	 <p style="text-align: center;">Large ribosomal subunit Polypeptide Messenger RNA Small ribosomal subunit</p>	<p>Plant <input type="checkbox"/></p> <p>Animal <input type="checkbox"/></p> <p>Prokaryote <input type="checkbox"/></p>
<p><b>Endoplasmic reticulum (ER)</b></p> <p style="text-align: center;">Rough ER Smooth ER</p>	<ul style="list-style-type: none"> <li>• _____ system for materials in cell</li> <li>• membrane</li> <li>• 1. _____ ER: covered in ribosomes; site of _____ synthesis</li> <li>• 2. _____ ER: NO ribosomes; produces _____ and lipids;</li> </ul>	<p style="font-size: small;">Randy Moore, Dennis Clark, and Darrell Vodopich, Botany Visual Resource Library © 1998 The McGraw-Hill Companies, Inc. All rights reserved.</p> <p><b>Three-Dimensional Endoplasmic Reticulum</b></p>  <p style="text-align: center;">Nuclear envelope Nucleus Ribosomes Rough endoplasmic reticulum Smooth endoplasmic reticulum</p>	<p>Plant <input type="checkbox"/></p> <p>Animal <input type="checkbox"/></p> <p>Prokaryote <input type="checkbox"/></p>
<p><b>Golgi Apparatus</b></p> <p style="text-align: center;">Vesicles</p>	<ul style="list-style-type: none"> <li>• _____ system of the cell</li> <li>• Collects, modifies, and packages _____ in the cell</li> <li>• Distributes and _____ molecules in _____</li> </ul>	<p style="text-align: center;">The Golgi Apparatus</p>  <p style="text-align: center;">Incoming Transport Vesicle Lumen Cis Face Incoming Transport Vesicle Cisternae Trans Face Newly Formed Vesicles Outgoing Transport Vesicles Figure 1</p>	<p>Plant <input type="checkbox"/></p> <p>Animal <input type="checkbox"/></p> <p>Prokaryote <input type="checkbox"/></p>

## Cell Organelle Notes

<p><b>Lysosome</b></p>	<ul style="list-style-type: none"> <li>• ' _____ Disposal' of cell</li> <li>• Contains digestive _____ that break down waste</li> </ul>	<p style="text-align: center; color: green;">Lysosome</p> 	<p>Plant <input type="checkbox"/></p> <p>Animal <input type="checkbox"/></p> <p>Prokaryote <input type="checkbox"/></p>
<p><b>Mitochondria</b></p>	<ul style="list-style-type: none"> <li>• " _____ " of the cell</li> <li>• Site of _____</li> <li>• Converts energy stored in _____ into energy that the cell needs - _____</li> <li>• <b>Sugar + Oxygen → Carbon dioxide + Water + ATP</b></li> </ul>	<p style="text-align: center;">Mitochondria Structural Features</p>  <p style="text-align: center;">Figure 1</p>	<p>Plant <input type="checkbox"/></p> <p>Animal <input type="checkbox"/></p> <p>Prokaryote <input type="checkbox"/></p>
<p><b>Chloroplast</b></p>	<ul style="list-style-type: none"> <li>• Found only in _____ cells and _____</li> <li>• Contains the green pigment _____</li> <li>• Changes _____ (solar energy) into <u>food</u> like _____ (chemical energy)</li> <li>• <b>Sunlight + CO<sub>2</sub> + Water → Sugar + Oxygen</b></li> </ul>	<p style="text-align: center;">Plant Cell Chloroplast Structure</p>  <p style="text-align: center;">Figure 1</p>	<p>Plant <input type="checkbox"/></p> <p>Animal <input type="checkbox"/></p> <p>Prokaryote <input type="checkbox"/></p>

# Cell Organelle Notes

<p><b>Cell wall</b></p>	<ul style="list-style-type: none"> <li>• Rigid, protective _____ (maintains cell shape)</li> <li>• Found in _____ and _____ cells</li> <li>• Located _____ of the cell membrane</li> <li>• Made of _____ (carbohydrate fiber)</li> </ul>	<p><b>Plant Cell Wall</b></p>  <p><b>Figure 1</b></p>  <p><b>Figure 1</b></p>	<p>Plant <input type="checkbox"/></p> <p>Animal <input type="checkbox"/></p> <p>Prokaryote <input type="checkbox"/></p>
<p><b>Vacuole</b></p>	<ul style="list-style-type: none"> <li>• Large _____ vacuole in plant cells</li> <li>• Many _____ vacuoles in animal cells</li> <li>• Storage container for water, food, enzymes, wastes, pigments, etc.</li> <li>• Supports cell _____ in plants</li> </ul>	 <p><b>Figure 1</b></p>	<p>Plant <input type="checkbox"/></p> <p>Animal <input type="checkbox"/></p> <p>Prokaryote <input type="checkbox"/></p>

