

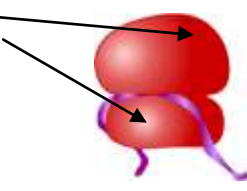


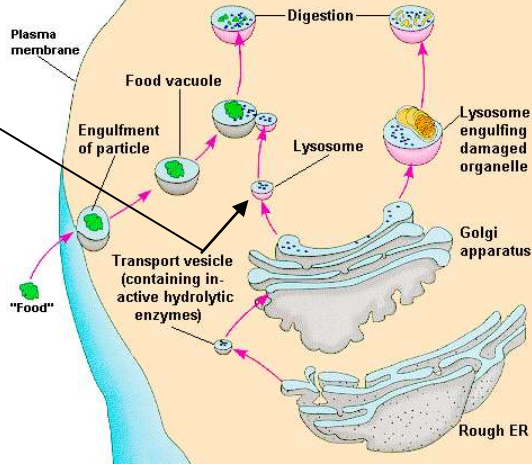
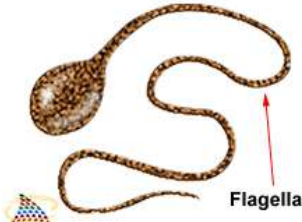
## Cellular Organelles


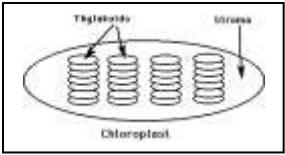

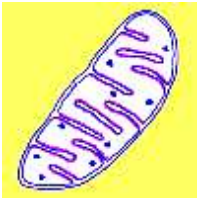
Biology 12  
Ms. Mazurkewich

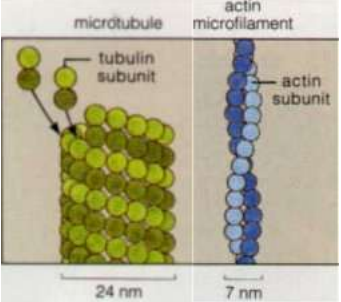
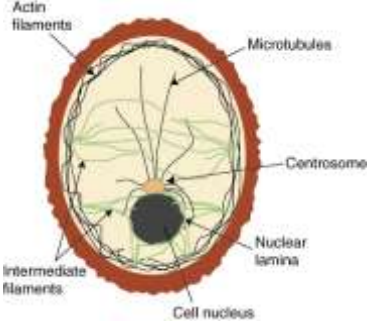
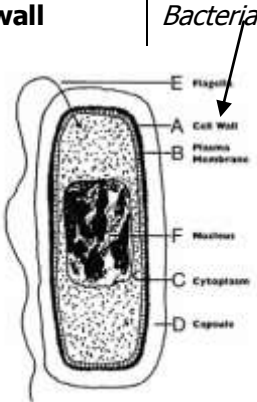
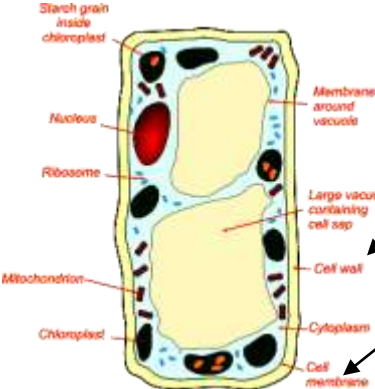
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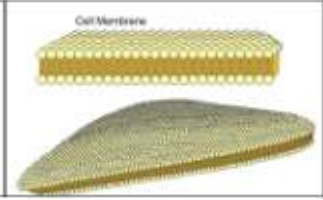
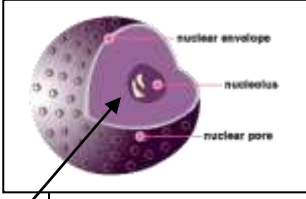
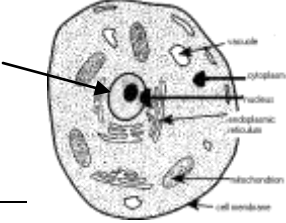
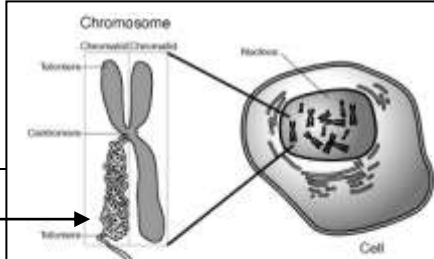
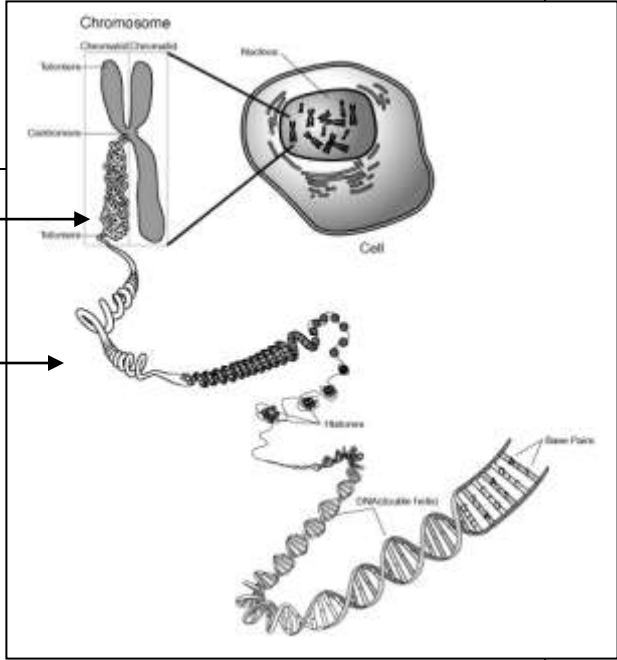
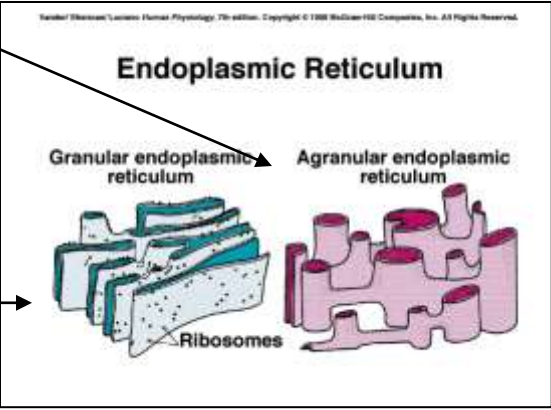
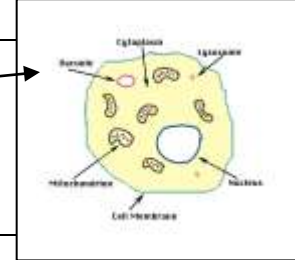
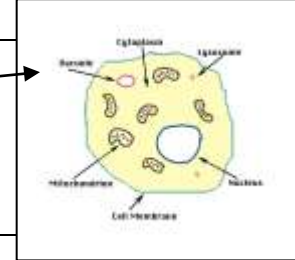
# KEY

**Instructions:** Use your textbook **and other resources (!)** to find the structure and function of each of the organelles in the table below.

ORGANELLE	DIAGRAM(S)	FUNCTIONS
<b>Ribosome</b>	 <p>Although it looks like only one tiny ball in your diagrams, it is actually two subunits stuck together.</p>	→ Makes protein
<b>Golgi</b>	 <p>Flattened sacs (look like pancakes). One side faces nucleus, other side faces cell membrane.</p>	→ Receive vesicles (small bags of fluid) and either store or modify the chemicals. They also send stuff to it's proper destination inside the cell or out. They are like a miniature mail processing factory.
<b>Centriole</b>	 <p>9 sets of triplet microtubules all stuck in a ring. Animal cells only, not plant cells. 2 per cell</p>	→ Make up the base of cilia and flagella. → Might be used to organize microtubules (cell skeleton). → Pulls organelle duplicates apart during cell splitting.
<b>Lysosome</b>		→ Small sack of enzymes that digest stuff (food particles or cell itself when it dies).  → probably made by Golgi.
<b>Flagella</b>		→ A long, hairlike projection that is used to move the cell.

<p><b>Cilia</b></p>		<p>→ Short hairlike projections that are used to move the cell or to move materials past the cell (if it can't move).  → move in oarlike motion (like 100 oars rowing a huge boat)</p>
<p><b>Chloroplast</b></p>	 	<p>→ Contains chlorophyll (the green chemical in plants).  → The place where photosynthesis takes place (using light energy to produce food for the plant).</p>
<p><math>Energy + CO_2 + H_2O \rightarrow carbohydrates (food) + O_2</math></p>		<p><b>Mitochondria</b></p>
	<p>→ produce energy (like electricity) for the cell to move and carry on its life processes.  → Uses food (carbohydrates) to make the energy.</p>	
<p><math>Carbohydrates (food) + O_2 \rightarrow Energy + CO_2 + H_2O</math></p>		

ORGANELLE	DIAGRAM(S)	FUNCTIONS
<p><b>Cytoskeleton</b></p> 		<p>→ filamentous (hairlike) structures in the cell cytoplasm that help keep the cell's proper shape and anchor the organelles or move them about when necessary.</p> <p>→ microtubules are like little tubes (straws)</p> <p>→ microfilaments are like intertwined threads.</p>
<p><b>Cell wall</b></p>  <p>Figure 1.</p>	<p><i>Bacteria</i></p> <p><i>Plants</i></p> 	<p>→ In plants the cell wall is OUTSIDE the cell.</p> <p>→ In bacteria, the cell wall is INSIDE the cell.</p> <p>→ It is a type of skeleton or protective structure in both organisms.</p>

<p><b>Cell membrane</b></p>		<p>→ the "skin" of a cell.  → controls what enters and what exits.  → made of a double layer. (Phospholipid bilayer).</p>
<p><b>Nucleus</b></p>	 	<p>→ The "brain" of the cell (sort of).  → Controls the cell and is the "house" for all the genetic material (chromosomes).  → (Genetic material is INSTRUCTIONS for everything about us)</p>
<p><b>Nucleolus</b></p>		<p>→ makes ribosomes.</p>
<p><b>Chromosome</b></p> <p><b>Chromatin</b></p>		<p><u>Chromatin</u> → the chemical 'string' that is the instructions to make all your body and it's chemicals – even brain and thought and memory chemicals!</p> <p><u>Chromosome</u> → A coiled up piece of chromatin (like a book that's closed and ready to be moved around.)</p>
<p><b>Smooth endoplasmic reticulum</b></p>		<p>→ Makes lipids (fats / oils)  → Breaks down carbohydrates into simple sugars (yes, carbohydrates (potatoes, rice) ARE <b>SUGAR!!!</b>)  → Makes hormones and steroids  → detoxifies drugs (medicines, alcohol (yes, it's a drug, caffeine, nicotine, and even illicit drugs)).</p>
<p><b>Rough endoplasmic reticulum</b></p>		<p>→ the "roughness" of rough E.R. is just attached ribosomes. The ribosomes are making proteins and shoving them INTO the E.R. The proteins will be packaged and sent to Golgi for further processing and sending off to wherever they are needed.</p>
<p><b>Vacuole</b></p>		<p>→ Just a large vesicle. Stores stuff (important or waste). Also, in plant cells, is part of support so they are not limp.</p>

Go to [www.google.ca](http://www.google.ca) and click images. Then type in the name of any organelle you wish to see. You'll be amazed!!