

Topic: Plant vs. Animal Cells

Learning Objective/Outcome: differentiate between structure and function in plant and animal cells.

<u>Keywords/Questions</u>	<u>Notes</u>
Compare and contrast plant and animal cells.	<p>Both plant and animal cells have many similar organelles and cellular substructures such as the following:</p> <ul style="list-style-type: none">• Nucleus• Cell Membrane• Mitochondria• Cytoplasm• Smooth and Rough ER• Golgi Apparatus• Ribosomes <p>Plant cells have a much larger central vacuole than animal cells, and have a cell wall in addition to the cell membrane. They also contain a special organelle called a chloroplast that produces energy for the cell.</p>
What is a cell wall?	<p>A tough, rigid outer covering that protects and provide shape to the cell</p> <ul style="list-style-type: none">– Plants, algae, fungi, and most bacteria
What is the function of chloroplasts?	<p>Chloroplasts are energy producing organelles that are found in <u>all</u> plant cells and some bacteria. They contain Chlorophyll which is a green pigment which gives plants their color.</p>
Explain the function of chlorophyll.	<p>This is the site of photosynthesis which is a process in which energy from sunlight is used to convert carbon dioxide and water into food (glucose).</p>
What is a vacuole?	<p>Vacuoles are storage bubbles within a cell which may contain water, nutrients, or waste products</p> <ul style="list-style-type: none">• Plant <u>and</u> animal cells have vacuoles, but they are much larger in plants• May gain and lose water depending on water availability; drooping plants have lost water and the vacuoles are shrinking therefore having a lesser turgor pressure

Summary

Both cell types share similar function and cellular processes in order to provide energy and maintain the health of the organism; however, plant cells have a few more organelles to perform specialized functions such as autotrophic energy gain and maintenance of structure.

