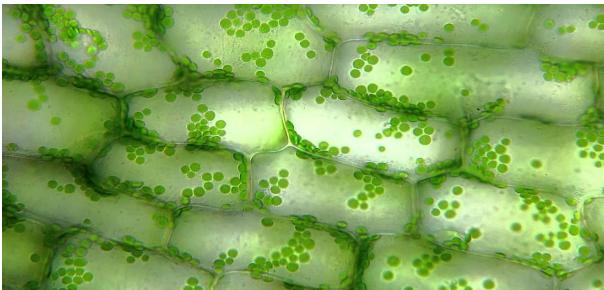


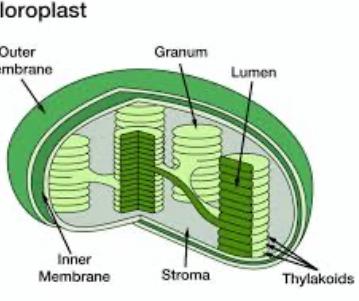
# Elodea Leaf Cells

## ROLE.



The primary function of an elodea leaf is to make food for the plant using photosynthesis. Elodea is a water plant, and those same leaves provide a home for tiny invertebrate life forms. When the plant dies, the leaves decompose, providing food for these same creatures.

- Elodea does anchor to the pond bottom so it does pull **water** and nutrients through its root system but also absorbs some through the leaves. During photosynthesis, the chlorophyll takes the energy from the sun and converts the carbon dioxide and **water** to sugars and oxygen.
- The dark green leaves are filled with chlorophyll, a green substance that is used in photosynthesis. The plant floats just below the surface, giving it access to plenty of sunshine. Unlike land plants that pull carbon dioxide from the air, elodea pulls it from the water.

Organelle - Chloroplast Structure & Function	Organelle- Vacuole Structure and Function
<p><b><u>Chloroplasts Function</u></b></p> <p>During photosynthesis, the chlorophyll takes the energy from the sun and converts the carbon dioxide and water to sugars and oxygen. The sugars are used for plant food, while the oxygen is released into the pond.</p> <p>The dark green leaves are filled with chlorophyll, a green substance that is used in photosynthesis. The plant floats just below the surface, giving it access to plenty of sunshine. Unlike land plants that pull carbon dioxide from the air, elodea pulls it from the water. Elodea does anchor to the pond bottom so it does pull water and nutrients through its root system but also absorbs some through the leaves.</p> <p><b><u>Chloroplasts Structure</u></b></p>  <p>The diagram illustrates the structure of a chloroplast. It shows a double-membrane system consisting of an outer membrane and an inner membrane. The interior is filled with a fluid called stroma. Within the stroma are stacks of green, disc-like structures called thylakoids. These thylakoids are organized into larger, interconnected structures called grana. The space between the thylakoids is labeled as the lumen.</p>	<p><b><u>Vacuole Function</u></b></p> <p><b>Function of the Vacuole.</b> A <b>vacuole</b> is usually found in all plant and fungal <b>cells</b>, as well as some <b>cells</b> of protists, animals, and bacteria. These membrane-bound structures are basically just enclosed compartments that are filled with both inorganic and organic molecules, along with water to support the organelle. <b>Vacuoles</b> might store food or any variety of nutrients a <b>cell</b> might need to survive. They can even store waste products so the rest of the <b>cell</b> is protected from contamination.</p> <p>In general, the functions of the vacuole include:</p> <ul style="list-style-type: none"><li>• Isolating materials that might be harmful or a threat to the cell</li><li>• Containing waste products and exporting them from the cell</li><li>• Containing water in plant cells</li><li>• Maintaining internal hydrostatic pressure or turgor within the cell which allows plants to support structures such as leaves and flowers due to the pressure of the central vacuole</li><li>• Maintaining an acidic internal pH</li><li>• Containing small molecules.</li></ul> <p><b><u>Vacuole Structure</u></b></p>  <p>When a <b>plant cell</b> has stopped growing, there <b>is</b> usually one very <b>large vacuole</b>. Sometimes that <b>vacuole</b> can take up more than half of the <b>cell's</b> volume. The <b>vacuole</b> holds <b>large</b> amounts of water or food.</p> <p>A vacuole has a broad definition, and includes a variety of membrane-bound sacs. The membranes are composed of phospholipids, but each organism may use slightly different phospholipids. Embedded in the membranes are proteins, which can function to transport molecules across the membrane or give it structure. Various combinations of these proteins allow different vacuoles to handle and hold different materials.</p>