

# PHOTOSYNTHESIS

How do light dependent and light-independent reactions provide food for a plant? Why?

Plants are the original solar panels. Through photosynthesis a plant is able to convert electromagnetic (light) energy into all creatures that rely on the plant for food and shelter. Plants and photosynthetic algae are also the source of all oxygen on Earth, allowing the inhabitants of Earth to benefit from our most plentiful renewable energy resource.

Model 1 - Chloroplast



$6\text{CO}_2 + 12\text{H}_2\text{O} + \text{sunlight energy} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{H}_2\text{O}$   
Outer membrane  
Inner membrane

Strong  
Site of the Calvin cycle, or light-independent reactions.  
Thylakoid  
to share reaction  
compound that absorbs light

120

Glucose ( $\text{C}_6\text{H}_{12}\text{O}_6$ )

1. Consider the organelle illustrated in Model 1 in. What is the name of this organelle?

Chloroplast

& Is this organelle more likely to be found in animal cells or plant cells?

Plutcall

2. The structures inside the organelle in Model 1 are called thylakoids. What compound necessary for photosynthesis is contained in the thylakoids?  
Chlorophyll