

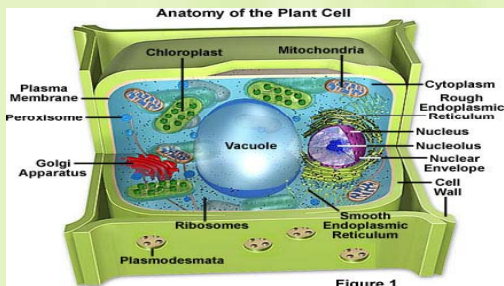
Site of Photosynthesis

* Plant cells

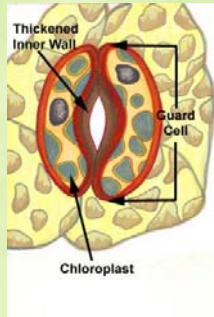
Dicot Leaf Cross Section



Plant Cell



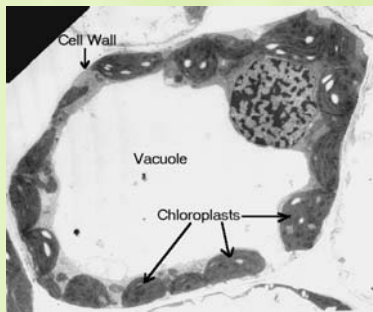
Guard Cells

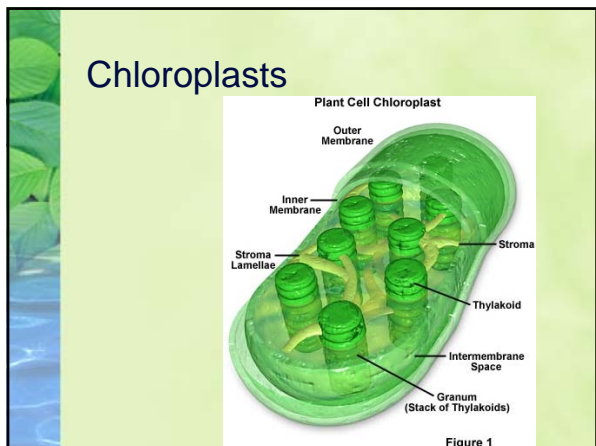


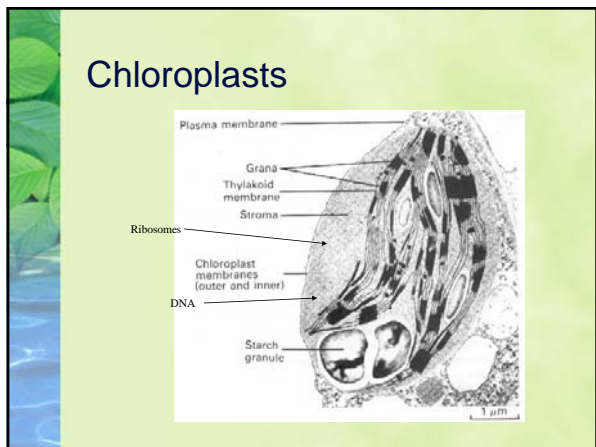
Elodea



Mesophyll Cells



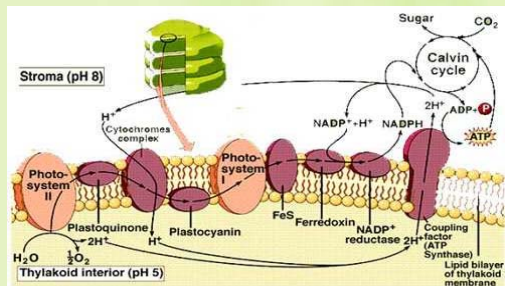




Pathways of Photosynthesis

- * Light Dependent Reactions (Light Reactions)
 - Products
 - ↳ Oxygen
 - ↳ NADPH₂
 - ↳ ATP
- * Light Independent Reactions (Dark Reactions or Calvin Cycle)
 - Glucose

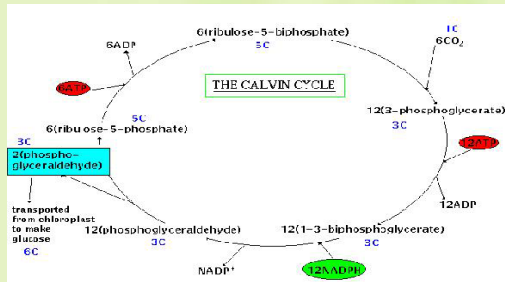
Light Reactions



Light Independent Reactions (Calvin Cycle)



Light Independent (Calvin Cycle)



Summary of Photosynthetic Pathways

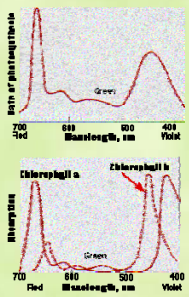
- * Light Reactions
 - NADPH₂
 - ATP
 - Byproduct is Oxygen
- * Dark Reaction
 - Glucose

Relationship of Structure and Function

- * Folded Thylakoid membranes
- * Separate Areas
- * Lumen for Proton Accumulation
- * Fluid Stroma

Action and Absorption Spectra

- * Action Spectra is related to the Rate of Photosynthesis
- * Absorption is the absorption of specific wavelengths.



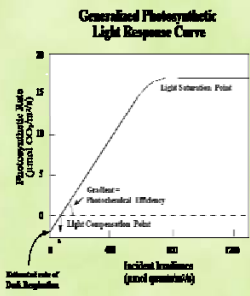
The figure contains two line graphs. The top graph plots 'Rate of photosynthesis' on the y-axis against 'Wavelength, nm' on the x-axis. The x-axis ranges from 400 (Violet) to 700 (Red). A curve labeled 'Green' shows two distinct peaks: one in the blue region (around 430 nm) and one in the red region (around 660 nm). The bottom graph plots 'Absorption' on the y-axis against 'Wavelength, nm' on the x-axis. The x-axis ranges from 400 (Violet) to 700 (Red). Two curves are shown: 'Chlorophyll a' has a sharp peak in the blue region (around 430 nm) and a smaller peak in the red region (around 660 nm); 'Chlorophyll b' has a sharp peak in the blue region (around 450 nm) and a smaller peak in the red region (around 640 nm).

Limiting Factors

- * Light Intensity
- * Temperature
- * Concentration of Carbon Dioxide

Light Intensity

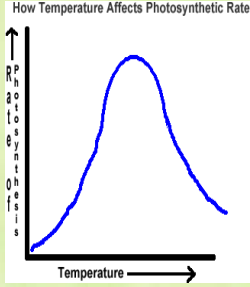
- * Why does it plateau?



The graph shows the relationship between incident irradiance and photosynthetic rate. Key features include the light compensation point, light saturation point, and a plateau where photosynthesis is limited by factors other than light.

Temperature

- * What does this curve look like?
- * What could temperature be effecting?



The graph shows a bell-shaped curve representing the effect of temperature on the photosynthetic rate. The rate increases to an optimal temperature and then decreases as temperature continues to rise.

Carbon Dioxide

✦ Why does it Plateau?

