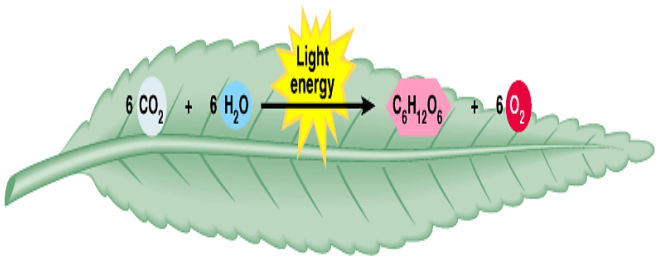
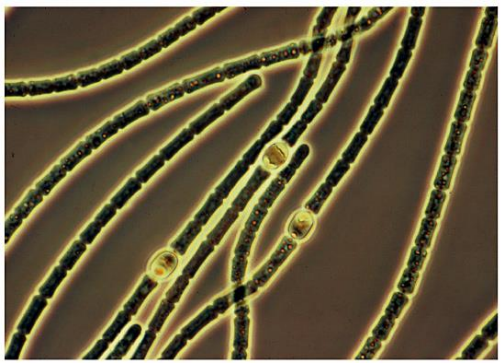
Photosynthesis lab-7

Photosynthesis is the process by which autotrophic organisms use light energy to make sugar and oxygen gas from carbon dioxide and water.



THE BASICS OF PHOTOSYNTHESIS

- Almost all plants are photosynthetic autotrophs, as are some bacteria and protists.
  - Autotrophs generate their own organic matter through photosynthesis.
  - Sunlight energy is transformed to energy stored in the form of chemical bonds.



Importance of the photosynthesis

- Convert light energy to chemical energy in the form of glucose

(Then the process of cellular respiration converts energy in glucose to energy in the form ATP which is used to power biological processes.)

- Convert carbon dioxide into oxygen

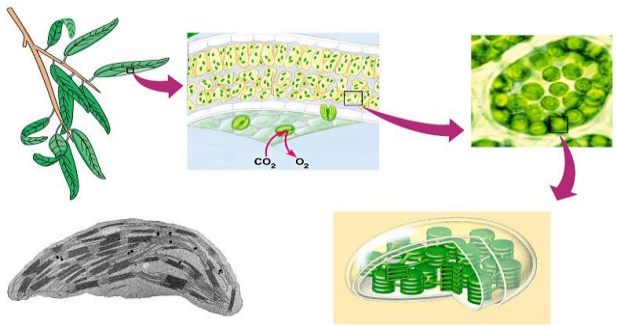
(During photosynthesis carbon dioxide leaves the atmosphere and enters the plant and leaves as oxygen)

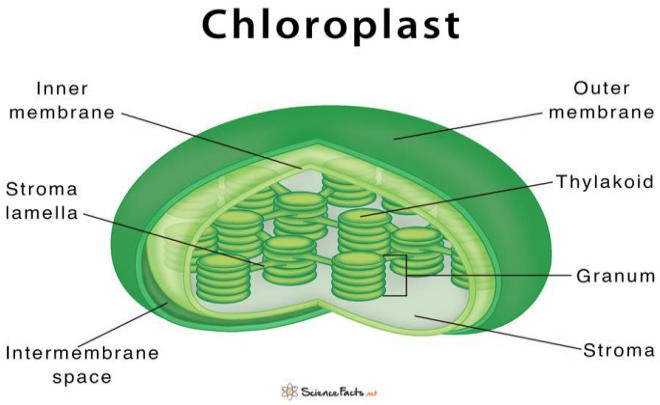
Sites of photosynthesis

- Photosynthesis occurs in chloroplasts , organelles in certain plants.
- All green plant parts have chloroplasts and carry out photosynthesis
- The leaves have the most chloroplasts
- The green colour comes from chlorophyll in the chloroplasts
- The pigment absorb light energy

Photosynthesis **lab-7**

The location and structure of chloroplasts





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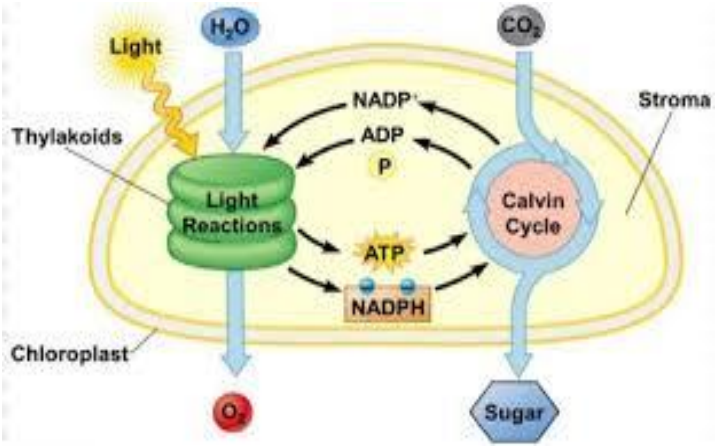
- Photosynthesis

- Light dependent stage
- Light independent stage

- Cyclic photophosphorylation
- Non cyclic photophosphorylation

Photosynthesis **lab-7**



Factors affecting photosynthesis

1. Light intensity: the rate of photosynthesis would go up as intensity is increased.
2. Wavelength: different colors of light can affect how much photosynthesis can occur.
3. Carbon dioxide concentration: as carbon dioxide concentration rise, the rate at which sugars are made increases.

- 4- Temperature: an optimum temperature ranging from 25Ċ to 35Ċ is required for agood rate.
- 5-Water supply: the lack of water not only cause the plant to wilt but also limits the quantity of carbon dioxide.
- 6-Chlorophyll concentration: Lack of chlorophyll or deficiency results in chlorosis or yellowing of leaves.
- 7. Pollution: pollution of the atmosphere with industrial gases produce soot that blocks stomata and reduce transparency of the leaves.

Jilan H. Huessein MSc.

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