Learn the photosynthesis formula

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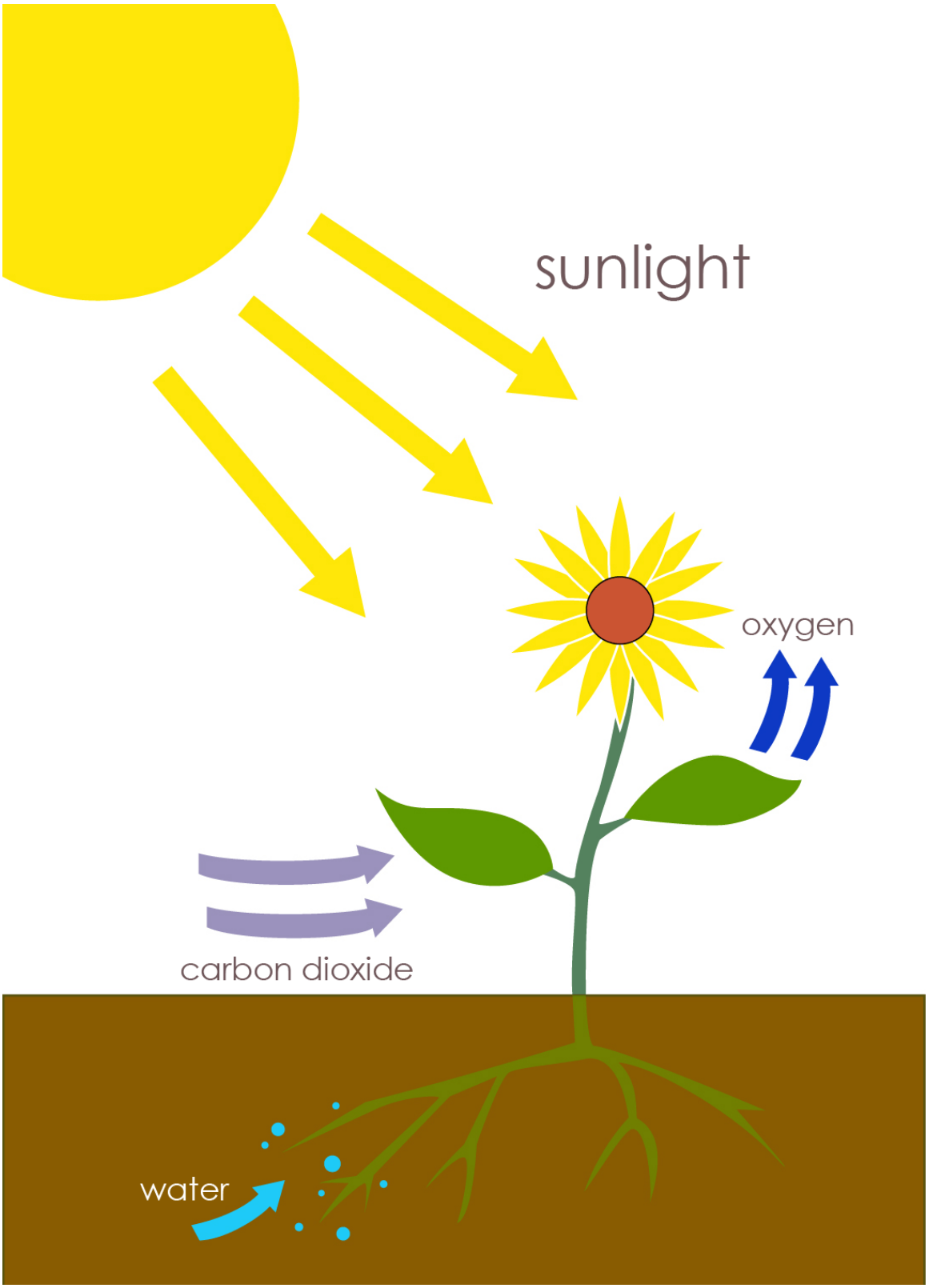
In plants, photosynthesis occurs mainly within the leaves. Photo from the public domain

Organisms need energy to survive. Some organisms are capable of absorbing energy from sunlight and using it to produce sugar and other organic compounds such as lipids and proteins. The sugars are then used to provide energy for the organism. This process, called photosynthesis, is used by photosythetic organisms including plants, algae and cyanobacteria.

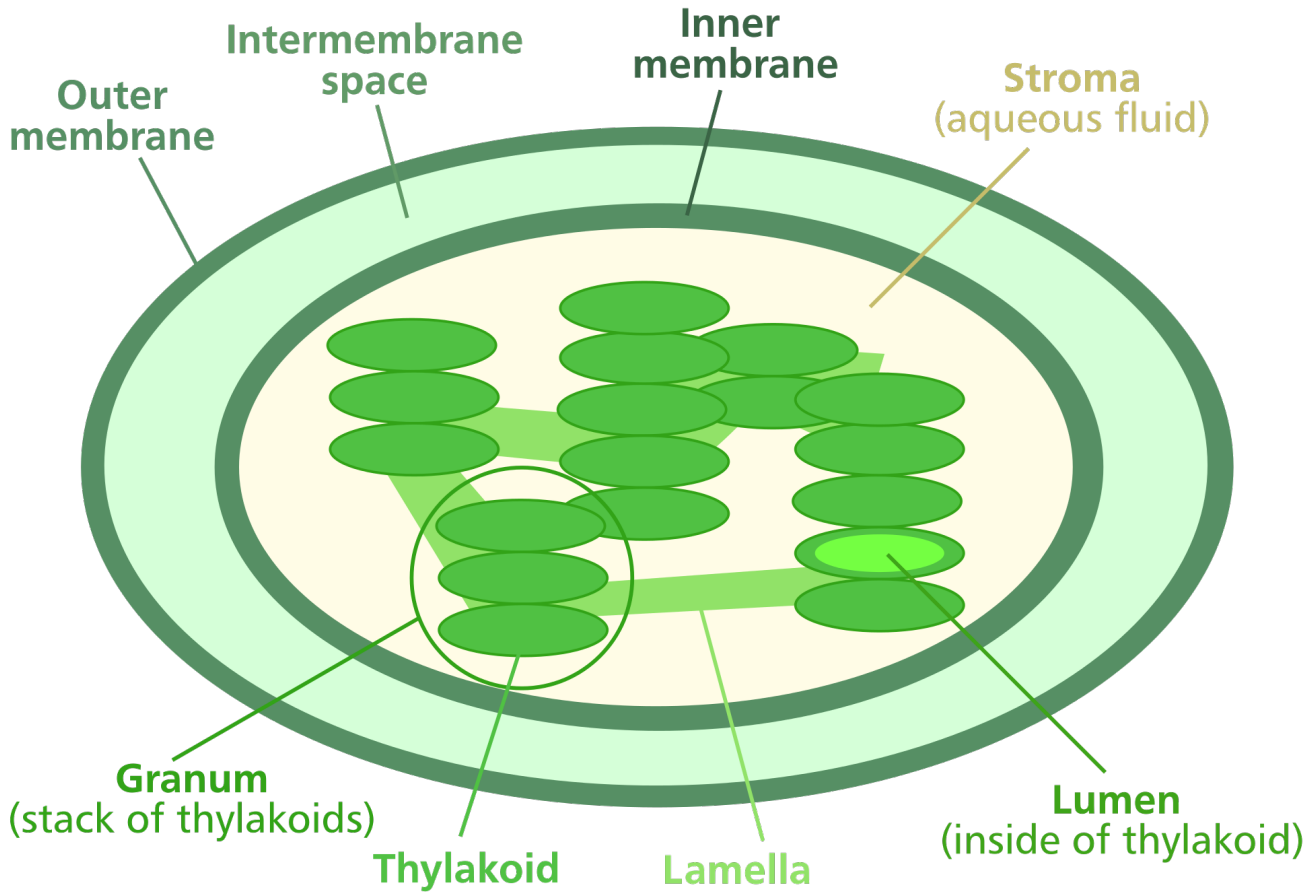
Photosynthesis Equation



In photosynthesis, solar energy is converted to chemical energy, which is stored in the form of glucose, a sugar. Carbon dioxide, water and sunlight are used to produce glucose, oxygen and water. The chemical equation for this process is:

$6CO_2 + 6H_2O$ + light energy = $C_6H_{12}O_6 + 6O_2$

Six molecules of carbon dioxide ($6CO_2$) and six molecules of water ($6H_2O$) are consumed in the process, while glucose ($C_6H_{12}O_6$), six molecules of oxygen ($6O_2$), and six molecules of water ($6H_2O$) are produced.

Photosynthesis In Plants

In plants, photosynthesis occurs mainly within the leaves. Since photosynthesis requires carbon dioxide, water and sunlight, all of these substances must be obtained by or transported to the leaves. Carbon dioxide is obtained through tiny pores in plant leaves called stomata. Oxygen is also released through the stomata. Water is obtained by the plant through the roots and delivered to the leaves through vascular plant tissue systems.