

Pre-visit Activity: Photosynthesis

Objective

Students will understand the process of photosynthesis, and why this process is vital to all living things.

Next Generation Sunshine State Benchmarks: SC.5.P.10.1, SC.5.P.10.2, SC.5.L.14.2, SC.5.L.15.1, SC.5.L.17.1, LA.5.1.5.1, LA.5.1.6.1, LA.5.1.6.2, LA.5.1.6.3, LA.5.1.6.5, LA.5.2.2.2, LA.5.2.2.3

Vocabulary

producers consumers predators prey decomposers

Materials

“Photosynthesis” handout (page 7)

Blank paper

Markers/colored pencils

Procedure

1. Discuss with the students how plants get food, since they can't go to the grocery store! Review plant needs and how they obtain energy in a unique way.
2. Give each student the “Photosynthesis” handout.
3. Discuss with students the steps of photosynthesis:
 - a. what is needed for photosynthesis to occur
 - b. what happens during photosynthesis
 - c. what are the results of photosynthesis
4. Discuss with students why photosynthesis is important to all living things:
 - a. the production of oxygen for breathing
 - b. plants are the first link in the food chain
5. Explain what a food chain is and how plants are the first link in the food chain because of their unique ability to produce their own food.
6. Pass out drawing paper and markers/colored pencils.
7. Have each child draw an example of a food chain, e.g., Plant – Caterpillar – Small Bird – Hawk.

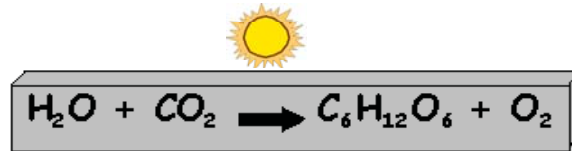
Extension-Acting the Part

To help students understand the products used during photosynthesis, you can have them act out the process. Assign a role to each student such as oxygen, carbon dioxide, solar energy, water and sugar. Explain the process again, and as the student's roles are mentioned, they ought to stand up and group together. The visual aspect can appeal to students with different learning styles.

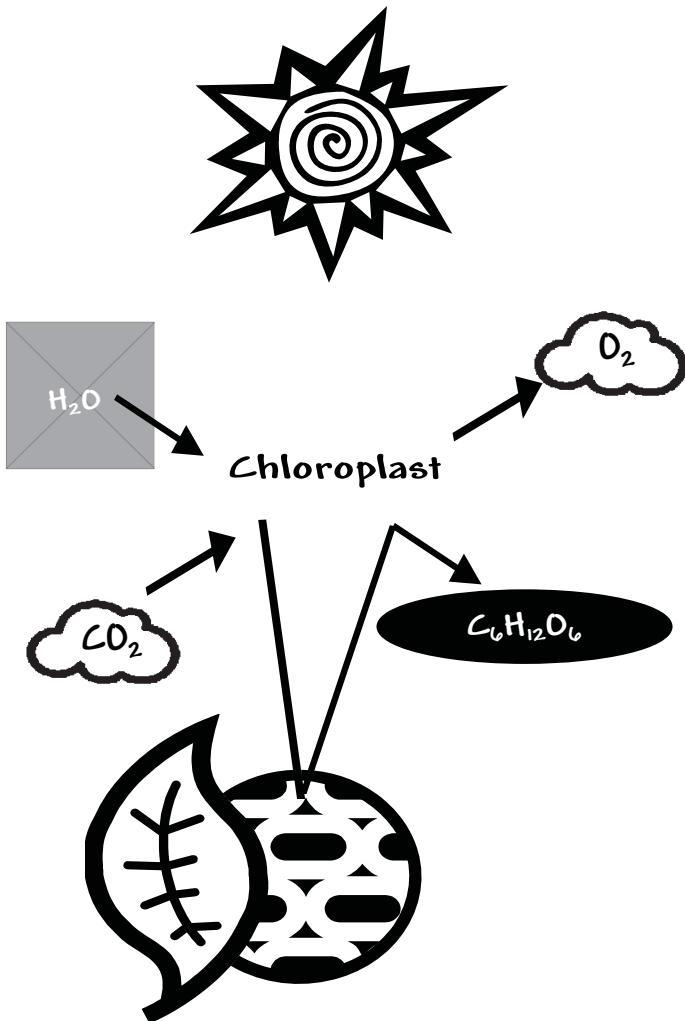
Tropical Explorations

Photosynthesis

Photosynthesis is the process that plants use to make their own food.



Water (H₂O) and carbon dioxide (CO₂) enter the leaf and are converted to sugar (C₆H₁₂O₆) and oxygen (O₂). Some water is also released with the reaction. **Energy from the sun is used to fuel this process.**



Chloroplasts in the leaf are where the reaction happens.

Chloroplast

Water enters the leaf through the roots.



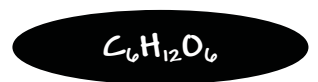
Carbon dioxide enters the leaf from the air around it.



Energy from the sun is trapped by a green pigment called chlorophyll that is found in the chloroplast.



Sugars are made for the plant to grow and reproduce.



Oxygen released during photosynthesis enables all living things to breathe.

