

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period \_\_\_\_\_ Subject: \_\_\_\_\_

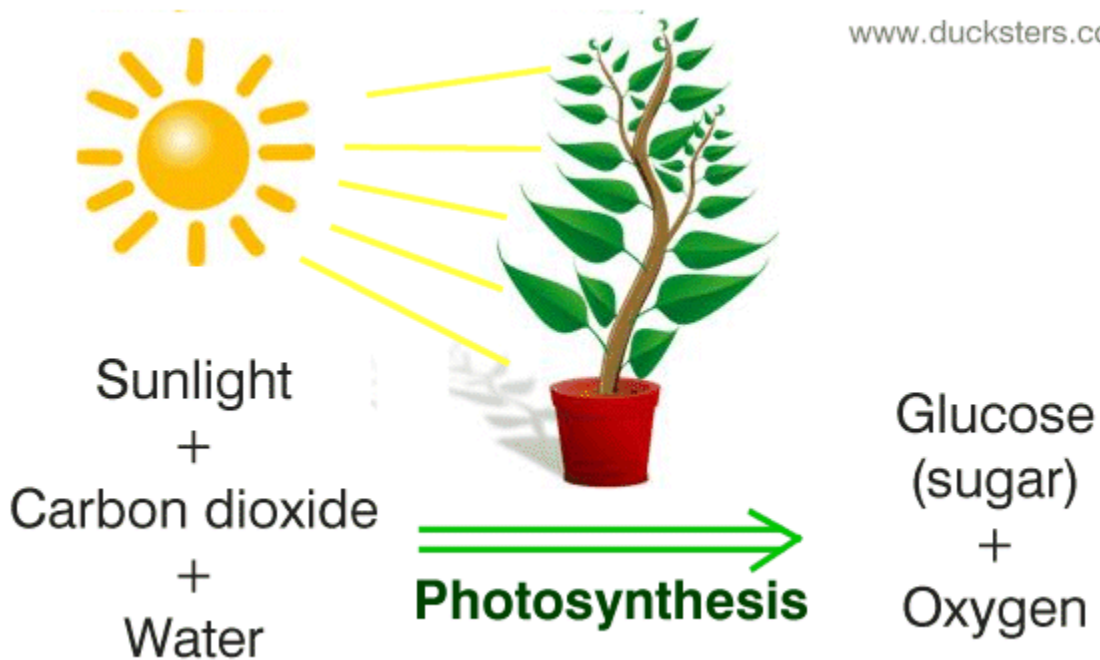
Biology for Kids  
Photosynthesis



Read the phase to answer the questions 1 through 10.

What is photosynthesis?

Have you ever noticed that plants need sunlight to live? It seems sort of strange doesn't it? How can sunlight be a type of food? Well, sunlight is energy and photosynthesis is the process plants use to take the energy from sunlight and use it to convert carbon dioxide and water into food.



Three things plants need to live

Plants need three basic things to live: water, sunlight, and carbon dioxide. Plants breathe carbon dioxide just like we breathe oxygen. When plants breathe carbon dioxide in, they breathe out [oxygen](#). Plants are the major source of oxygen on planet Earth and help keep us alive.

We know now that plants use sunlight as energy, they get water from rain, and they get carbon dioxide from breathing. The process of taking these three key ingredients and making them into food is called photosynthesis.

### **How do plants capture sunlight?**

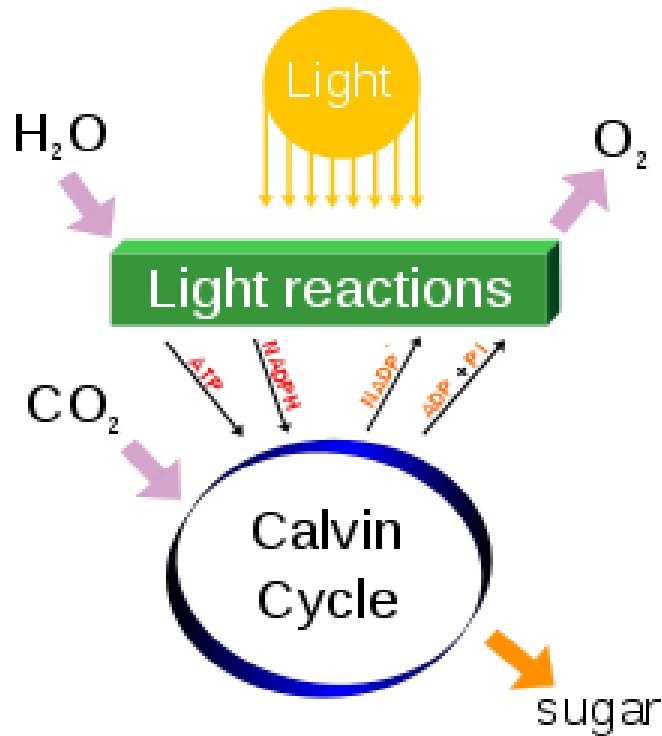
Plants capture sunlight using a compound called chlorophyll. Chlorophyll is green, which is why so many plants appear green. You might think at first that it's green because it wants to absorb and use green light. However, from our study of [light](#), we know that the color we see is actually the color of light that is reflected. So chlorophyll actually reflects green light and absorbs blue and red light.

### **More details on Photosynthesis**

Inside a plant's cells are structures called chloroplasts. It's in these structures where the chlorophyll resides.

There are two main phases to the process of photosynthesis. In the first phase, sunlight is captured by the chloroplasts and the energy is stored in a chemical called ATP. In the second phase, the ATP is used to create sugar and organic compounds. These are the foods plants use to live and grow.

The first phase of the process must have sunlight, but the second phase can happen without sunlight and even at night. The second phase is called the Calvin Cycle because it was discovered and described by scientist Melvin Calvin.



Even though plants need sunlight and water to live, different plants need different amounts of each. Some plants need just a little water while others need a lot. Some plants like to be in the direct sunlight all day, while others prefer the shade. Learning about the needs of plants can help you learn where to plant them in your yard and how best to water them so they will flourish.

### Summary

Now we know that plants need sunlight, water, and carbon dioxide to live. They take these three components and use chlorophyll to help convert them into food, which they use for energy, and oxygen, which they breathe out and we use to live. All plants use photosynthesis, so they all need some sunlight.

### Activities:

Take a ten question [quiz](#) about this page.

# Photosynthesis

## Quiz

Questions on this quiz are based on information from [Photosynthesis](#).

1. What three things do plants need for the process of photosynthesis?
  - a. Sunlight, oxygen, and sugar
  - b. Water, soil, and oxygen
  - c. Sunlight, carbon dioxide, and water
  - d. Carbon dioxide, oxygen, and soil
  - e. Sunlight, soil, and water
  
2. If plants breathe in carbon dioxide, what do they breathe out?
  - a. Nitrogen
  - b. Oxygen
  - c. Carbon monoxide
  - d. Hydrogen
  - e. Helium
  
3. What is the compound that plants use to absorb the energy from light?
  - a. Carbon Dioxide
  - b. H<sub>2</sub>O
  - c. Nitrogen
  - d. DNA
  - e. Chlorophyll
  
4. What color is chlorophyll?
  - a. Red

- b. Blue
- c. Yellow
- d. Green
- e. Brown

5. What is the name of the chemical where the energy is stored during the first phase of photosynthesis?

- a. ATP
- b. Carbon dioxide
- c. Chlorophyll
- d. Oxygen
- e. DNA

6. What is the Calvin Cycle?

- a. The second phase of photosynthesis
- b. Where energy from sunlight is stored in ATP
- c. Another name for the water cycle
- d. All of the above
- e. None of the Above

7. True or False: All plants need the same amount of sun to make enough food to be healthy.

- a. TRUE
- b. FALSE

8. What are the structures inside plant cells that contain chlorophyll called?

- a. Nucleus
- b. Ribosomes
- c. Chloroplasts
- d. Lysosomes

e. Mitochondria

9. True or False: Sunlight is not needed during the Calvin Cycle phase of photosynthesis.

a. TRUE

b. FALSE

10. True or False: Photosynthesis is responsible for the world's oxygen supply which is needed for animals to survive.

a. TRUE

b. FALSE

About this quiz: All the questions on this quiz are based on information that can be found on the Biology: Photosynthesis page at [www.ducksters.com/science/photosynthesis.php](http://www.ducksters.com/science/photosynthesis.php).

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