

Photosynthesis



**ASSIGN
BUSTER**

Topic ??“ Describe the importance of photosynthesis to life on earth. The formula for all life on earth is $6 \text{ CO}_2 + 6 \text{ H}_2\text{O} + \text{photons} > \text{C}_6\text{H}_{12}\text{O}_6 + 6 \text{ O}_2$. Without this formula, life as we know it, would not exist.

Simply, six carbon dioxides plus six waters plus sunlight gives off a simple sugar plus six oxygen molecules. Photosynthesis is the very basic building block for the earth's food supply. Without this simple chemical reaction you, me and everything we know would cease to exist. Let us explore the world of photosynthesis. Here is how it works. Carbon Dioxide, a naturally occurring gas in the air is drawn into the leaves of green plants.

Once in the leaf, it is mixed with water and then when exposed to light, through a process which is still not completely understood, the carbon dioxide and water are transformed through a chemical process. The result of this chemical reaction is a simple carbohydrate (Simple sugar) and oxygen which is released into the atmosphere. As a mammal, we humans breathe the oxygen and eat the sugar, or something which ate the sugar. In nature, the mammals which eat the plants or sugars die and then return to the earth and complete the circle in this cycle. This process is the very basic building block of our food supply as plants are the primary source of photosynthesis. Plants and plant products, which include fruits, tubers, seeds and other sugar storage devices become food for animals and humans. Humans also consume animal proteins which were built from the sugars of plants which the animal consumed before. If something were to happen to disrupt the photosynthesis cycle, life on earth would be in severe peril.

Earth only has about a 90 day supply of food available at any one time. This is primarily food which is in the process of being converted to a form humans can use or already processed and in storage. Ninety days between a living planet and one with no life. Scientists believe when the earth began there was very little oxygen in the atmosphere. Over millions of years, through the photosynthesis process, the amount of oxygen has increased and today is between 20 and 21 percent. It is this oxygen which we breath as part of our respiration process. Respiration is sometimes considered the opposite of photosynthesis because oxygen is taken in, combined with water and then we release carbon dioxide back into the atmosphere and water from our bodies. Every creature we know in High School science that breaths oxygen and gives off carbon dioxide owes its life to those which survive from photosynthesis.

As the song says, it is just a circle of life. As I have explained $6 \text{ CO}_2 + 6 \text{ H}_2\text{O} + \text{photons} > \text{C}_6\text{H}_{12}\text{O}_6 + 6 \text{ O}_2$ is the foundation for life on earth. Without this formula we would not exist. Because of this formula carbon dioxide and water are converted to a sugar and oxygen. This sugar is then consumed by humans and animals alike. Without this simple chemical reaction, you, me and everything we know would cease to exist. Life on earth is truly a delicate balance.