

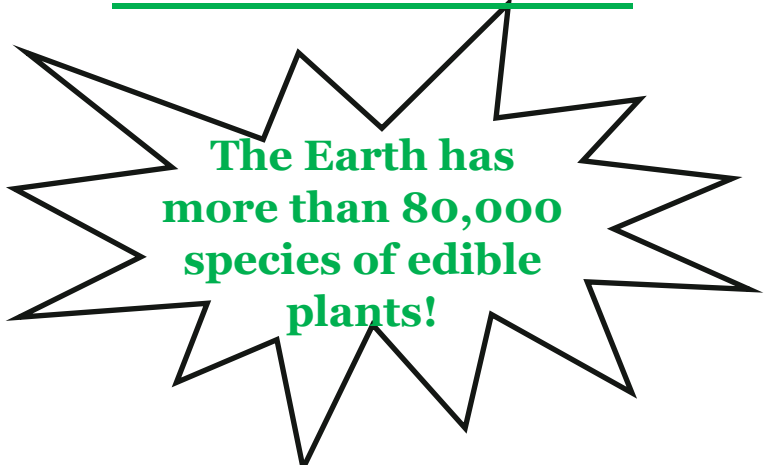
Grass is Hungry Too!

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Grass is commonly thought to be nonliving, when in fact it's a living organism. When I was younger, I thought that grass was something bare and lifeless, but later I learned that grass was a vibrant living organism that even has a home (or a **habitat**) like other living things. An ideal habitat for grass contains all of the non-living things it needs for survival. Like all living organisms, grass needs a broad range of things to live, like sunlight and water. Sunlight, water, and similar elements that help living things to survive are called abiotic factors. Abiotic means that they are nonliving. Abiotic factors also support the biotic factors. Living things in an environment are called biotic factors. Biotic factors mainly include plants and animals. However, fungi, bacteria, and molds are other types of biotic factors that are also important in an environment. All these living things (or biotic factors) can experience a change in their environment from non-living things (or abiotic factors) such as wind, rain, and temperature. These abiotic factors can make the biotic factors adapt to their new environment. To understand the importance of abiotic factors in an ecosystem, let's look at grass more closely.

Grass is a plant. Like most plants, grass makes its own food through a process called **photosynthesis**. Grass has molecules that get so excited by the sun that they produce **glucose**, which is a type of sugar. The sugar that is produced by photosynthesis is the main source of food for the grass. In the process of making glucose, the grass gives

FUN FACT



The Earth has more than 80,000 species of edible plants!

off a gas called oxygen. Humans and other animals (which are biotic) breathe in the oxygen and breathe out another gas called carbon dioxide. This is one way that plants (such as grass) help humans and animals to survive, while animals and humans help plants survive by giving off carbon dioxide. Without carbon dioxide, grass could not produce its food.

Abiotic factors help initiate and maintain the flow of interaction between the biotic factors in a community. For example, in a forest, the sun and rain help the grass be able to produce its food. In a **food chain**, a deer eats the grass, but a jaguar eats the deer. The sun and rain in this situation initiate the cycle of energy because it begins the process of the relationship between **producers** and **consumers**. All living organisms need abiotic factors for their essentials such as food, shelter, and a place to reproduce. Overall, the abiotic and biotic factors are essential to the functioning of an **ecosystem**. Now you know that grass can be hungry too!

Grass is Hungry Too!

Check out
Diagram #1

*photosynthesis: Process that plants go through to make their food and gain their energy. They incorporate water, sunlight, and carbon dioxide to make the food that they consume, which is called sugar. In this process, we receive oxygen to help us breathe. In return, we give off carbon dioxide when we exhale, which supports the plants in their production of glucose.

*habitat: The natural environment of an organism.

Check out Diagram
#2

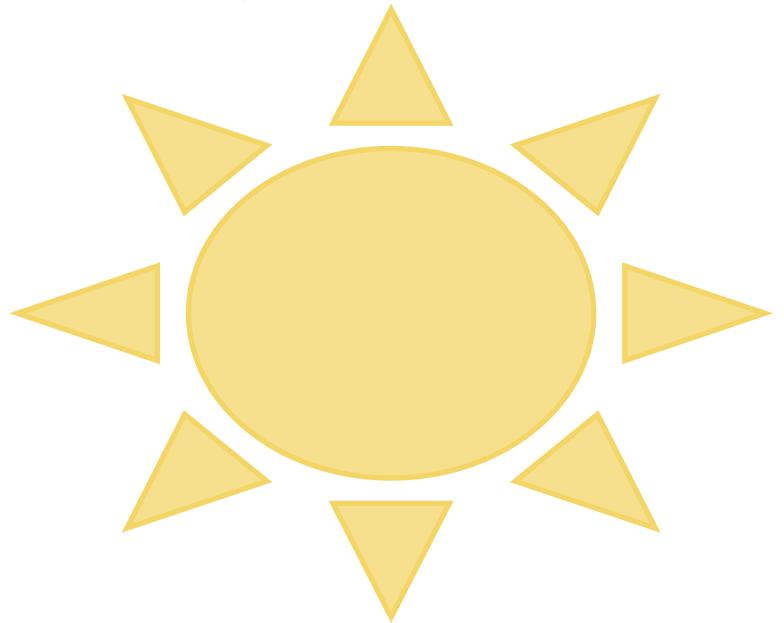
*food chain: the series of consumption leading up to the biggest consumer of the ecosystem.

*consumer: Receive energy by consuming other organisms.

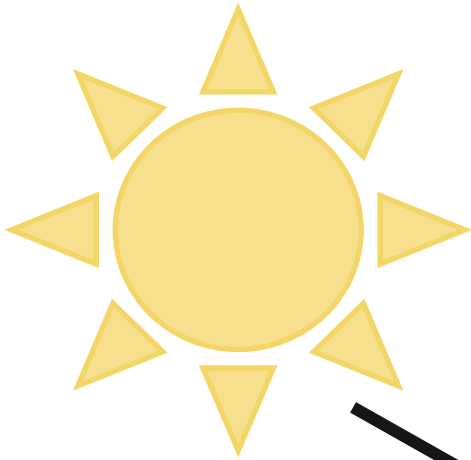
*ecosystem: Community of interacting organisms and their physical environment.

*glucose: Product of photosynthesis; the main food source for all plants during their chemical reaction.

*producer: They mainly serve as a source of food for other organisms in a food chain. These are primarily green plants and certain bacteria.



Grass is Hungry Too: Diagram #1



Oxygen is a gas that is released from the flower that supports humans and animals during their lifetime. The glucose is the sugar that is produced in photosynthesis to feed the flower since it is an autotroph. This means the flower doesn't feed on other organisms to get their source of nutrition.

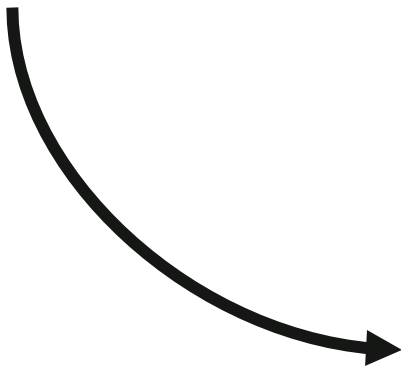
Oxygen and Glucose

Carbon Dioxide

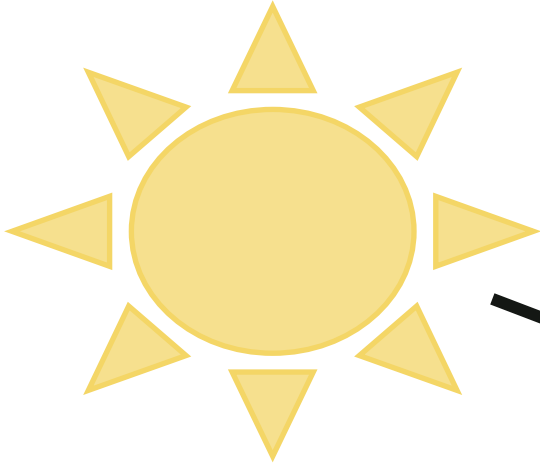
The flower needs carbon dioxide to produce its food during photosynthesis. This is a very important element in this chemical reaction.

Water

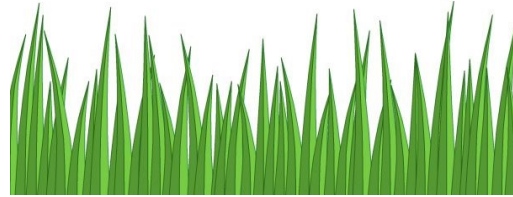
Water is another important factor in making sure the plant gets what it needs for survival. This can come from the ground or from the weather.



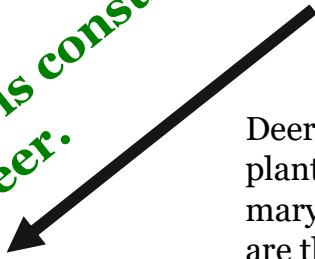
Grass is Hungry Too: Diagram #2



The sun provides energy to the plants to produce their own food during photosynthesis. The grass makes oxygen during this process, which is released into the atmosphere for humans and animals to breathe.



The grass is consumed by the deer.



Deer are herbivores, which mean they only eat plants. In a food chain, they are considered the primary consumer. Deer are given this title because they are the first animal in the chain to consume something. The energy they gain from eating the grass is transferred into their system to produce their own energy molecules needed for their body. Below this passage shows that the jaguar eats the deer. This animal is known as a carnivore, meaning that they only consume meat from other animals. In a food chain, the jaguar is a secondary consumer because in this food chain, it is the second organism to eat something.

The jaguar consumes the deer.

