

## Producer Power!

Do all living things need food? Yes, they do. Food provides energy to live and grow. All living things need energy. Without energy, organisms die. How do plants get energy to live and grow? Did you ever wonder how plants can get food without a mouth?

Plants do not need a mouth because they do not eat their food the same way animals do. Plants make their own food! Plants **produce** their own food. That is why we call them **producers**. But it takes energy to produce food. Where do plants get their energy? From the sun! They use that energy to produce food. Plants need this food to live and grow.



Sometimes plants grow indoors and use light energy from a light bulb instead of from the sun. We do that when we grow Wisconsin Fast Plants®. That makes it possible for us to grow Fast Plants in our classroom and watch them closely. The Fast Plants make their food to live from light energy that comes from the light bulb as they would do if they had light energy from the sun. We are substituting a light bulb for the sun for our Fast Plants, but we could not do that for all plants on Earth! We need the sun.

Plants can also store the food they make, to use later when there is no sunlight or when other conditions are not good for producing food. Plants can pass this stored food on to other living things. Think about some of the parts of plants you eat. A kernel of corn is the seed of a corn plant. A carrot is the root of a carrot plant. Broccoli is the flowering part of a plant that is a close relative of Fast Plants.



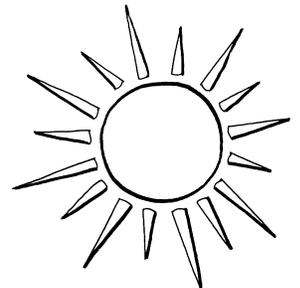
Scientists use the name *matter* for the stuff that plants combine to make food. We say that producers take matter from the air, water, and soil to make their own food. Producers use energy from the sun to make food from matter.

Producers do more than produce food. Most producers release oxygen, too. Why is that important? Animals and most other organisms need oxygen to live. Plants, like Fast Plants, use sunlight, water, and air to produce food and oxygen. Next time you eat or breathe, thank a plant!

Plants are not the only producers. Some types of bacteria and algae are also producers. A producer is any organism that can make its own food. Producers are very important. We could not live without them. Producers are the only organisms that can make their own food directly from sunlight and the matter around them.

When another living organism eats a producer, it gets the producer's matter and some of its energy. That is what happens when you eat vegetables and fruits. You eat part of a plant. So, you get the plant's matter and some of the energy that was used to grow the vegetable or fruit. All organisms that cannot make their own food depend on producers.

Many living things cannot make their own food. What might you call organisms that must get food by eating something? Scientists call them consumers. Consumers must *consume*, or eat, other organisms to get matter and energy to live and grow. Consumers have to eat other consumers or plants to get food. Humans are consumers. We consume many kinds of plants and other organisms. We are lucky to have producers, since we can't eat sunlight or air!



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