## Reflect

Imagine for a moment that you stay after school one day to clean up the classroom. While cleaning, you move some plants away from the sunny windows. A week later, you remember to move the plants back. You notice that something strange has happened. Instead of standing upright, the plants appear to be leaning toward the windows! Why?

Plants need sunlight to survive. If a plant is moved away from sunlight, it will try to turn back toward the Sun.

The Sun's energy allows plants to produce their own food. Plants then use this food energy to grow and reproduce. However, not all organisms can make their own food. How do other organisms get their energy? Do they get it from the Sun?

**Where do all living things get their energy?**

All the energy that passes between organisms comes from the Sun. You might be wondering how this is possible. After all, humans can't eat sunlight! Only certain organisms, such as plants, can gather energy directly from the Sun. That energy then passes to other organisms that eat plants.

## What Do You Think?

Suppose a dust storm blocked sunlight in your town for several weeks. What do you think would happen to the plants in the area? What would happen to the organisms that depend on the plants for food? Why?

**How do plants make their own food?**

Plants make their own food from sunlight in a chemical process. Sunlight, water, and carbon dioxide from the air are combined in the leaves of the plant. Sugar is one product of the chemical process. Plants use the sugar for energy. Another product of the chemical process is oxygen. Plants release oxygen as a waste product. Plants and other organisms, such as green algae, are the source of the oxygen in the air we breathe.

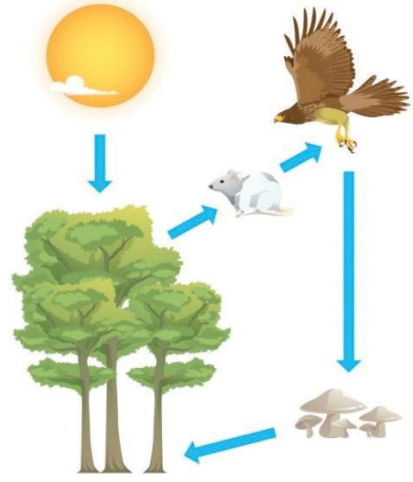
**Light + Carbon Dioxide + Water**

Plant Produces

**Sugar + Oxygen**

## Look Out!

**Animals must eat plants or other animals to gain energy.**



Look at the diagram of the Sun's energy being passed to several organisms. The plants get their energy from the Sun. The mouse gets energy by eating plants. The hawk gets energy by eating the mouse. Organisms such as mushrooms also help move energy. They break down material from the hawk or other organisms once they die. Some of the material becomes part of the soil that is later used by plants.

**Animals use a chemical process to gain energy, too!**

When an animal eats something, its body digests the food and breaks it down using a chemical process. The food is broken down into tiny pieces the body can use to grow and survive. These pieces include nutrients that help the body stay healthy and sugars that give the body energy.

**Animals need energy every day for different tasks.**

All organisms use the Sun's energy to grow, repair any injuries, maintain their body temperature, and move. Think about a time you played outside for a long time. How did you feel afterward? You probably felt hungry! You may have started to sweat! All animals use energy to move. Muscles in the body use sugars from food as energy to work. The body also needs energy to stay at the right temperature. Your body used energy to produce sweat and keep you cool.

Were you always as tall as you are now? How did you grow bigger? Your body uses energy and nutrients to grow over time. You are made up of tiny pieces, called *cells*, and your body makes more of these tiny pieces in order to get bigger. The same thing happens when you get a cut or a scrape. Your body uses energy to make more cells and repair the damaged part of your body.