

## Reflect

Every environment has living and nonliving things in it. Living things use some of the nonliving things in their environment, such as water and gases, to live. Matter is constantly cycling between living things (plants, animals, and microbes) and nonliving things (air, water, and soil).

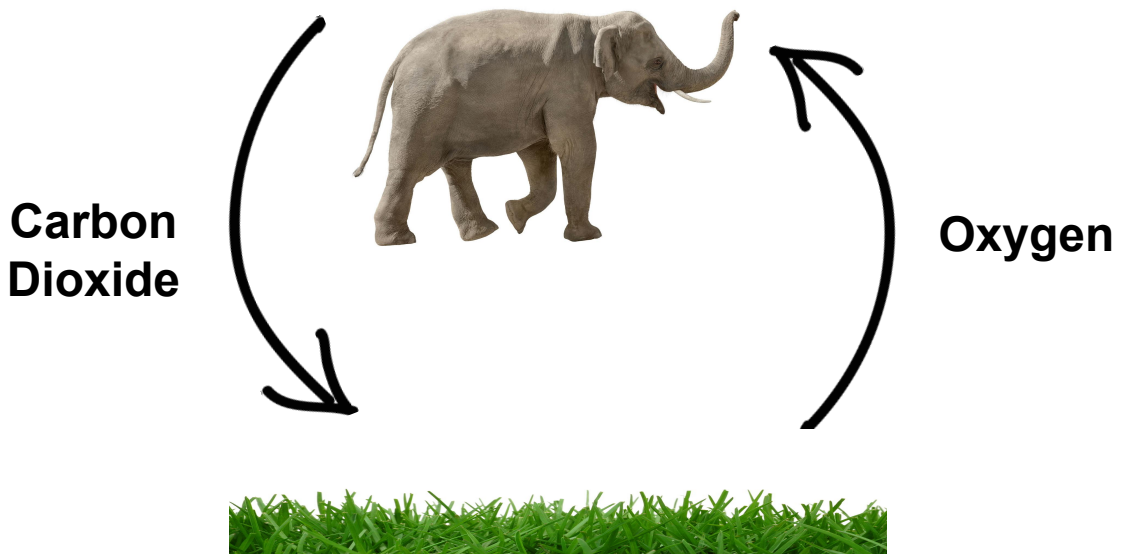
### How does matter cycle between the air and organisms?

Carbon dioxide and oxygen are two gases that are very important to life on Earth. Carbon dioxide is found in the air. It is released from the body when animals breathe out. Plants take in carbon dioxide from the air to make their own food, and they release oxygen in the process.



Oxygen is also found in the air. Organisms such as plants and green algae make their own food. During this process, the organisms release oxygen into the air. Many living things get oxygen from the air when they breathe in.

The cycle of carbon dioxide and oxygen on Earth is dependent on plants and animals. Plants provide the oxygen that animals and other living things need to survive. Animals and other living things provide the carbon dioxide that plants need to make their own food. Matter in the air makes a cycle!



## How do solid and liquid matter cycle between organisms and the environment?

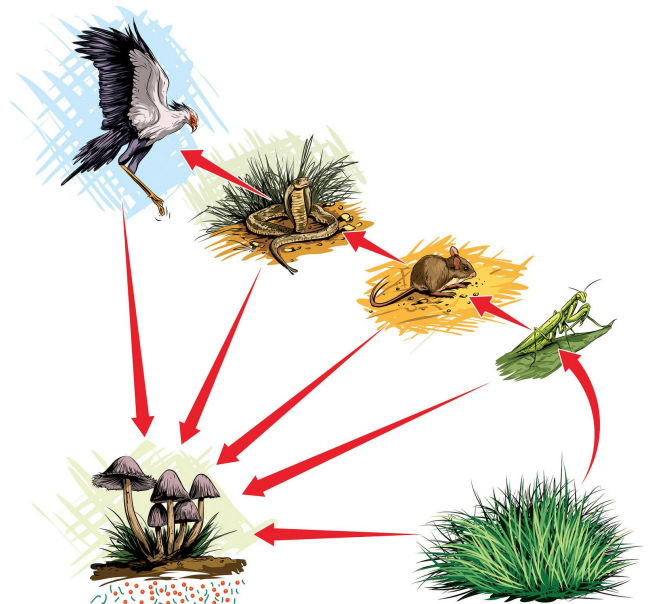
Plants use air and water in order to grow bigger and produce fruit and seeds. The matter plants are made of mostly comes from air and water in the environment. When a plant gets eaten, this matter is digested by the animal that ate the plant. When animals eat food, they use the matter and energy they consumed to grow bigger and survive. Animals drink water found in their environment in order to survive.



When an animal takes in solid food, its body digests it. Whatever its body doesn't use to survive and grow, it gets rid of as waste. Decomposers break down the waste into tiny particles that go back into the soil as nutrients. The same thing happens when an organism dies. Decomposers help waste matter and dead organisms break down and return back to the environment.

Organisms use solid and liquid material from their environment to live and grow. When they produce waste (or when they die), the matter they gained from their environment is broken down and returns to the environment. Matter cycles between organisms and their environment!

Organisms produce waste and eventually die or get eaten. Decomposers, such as mushrooms, break down waste and dead organisms into nutrients that go back into the soil.



## Try Now

You can help the environment by contributing to the matter cycle. Most of the kitchen waste that ends up in the trash each week can be recycled by composting. Composted materials break down into nutrients and minerals that can enrich the soil in your gardens. Compost piles are a great example of returning matter to the environment.

### Build a compost pile!

#### You will need the following:

- A bin or tub for the materials
- A lid
- A shovel
- A sunny area outside
- Soil, leaves, grass clippings, and other living things that you will no longer use, such as apple cores or banana peels
- Earthworms



#### Procedure:

1. Place the soil, leaves, grass clippings, and food pieces all into the bin you have chosen. These will help activate your compost bin and make it successful. **Note:** *Do not* use meat or bone scraps in your compost pile. These materials will bring in unwanted organisms.
2. Add the earthworms to the composting materials. They will speed up the composting process.
3. Keep your compost bin moist, and stir it with your shovel every few days.
4. Once your compost is broken down into a rich, black, crumbly material, it's ready to use in your garden. You will be able to grow amazing plants, fruits, and vegetables with your compost!

