**A Well-Functioning Ecosystem:**

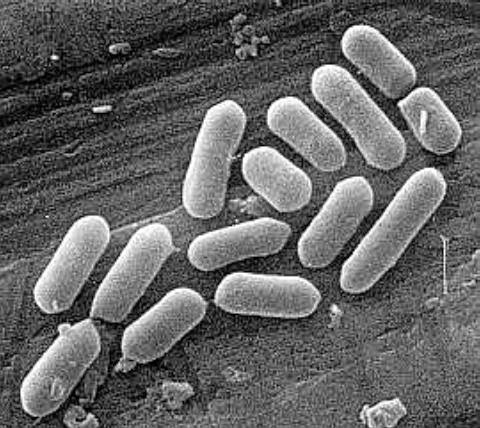
**How Do Living Things Help Cycle Matter and Energy in an Ecosystem?**

*Explain*

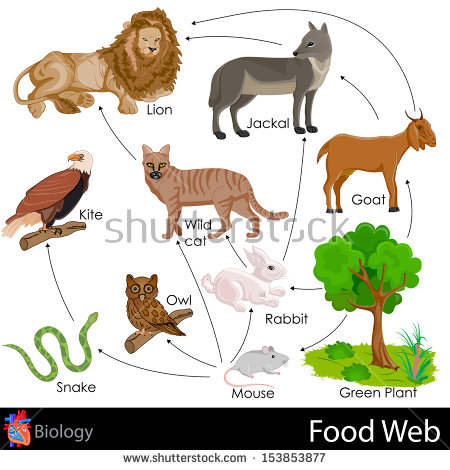
Every living organism needs certain things to survive, grow, and do their daily activities.

The most important part in an ecosystem is sunlight. Plants capture energy from the sun to grow and make their own energy. This is why we call plants producers—they *produce* the energy for the entire ecosystem. However, plants don’t only need sunlight to survive and grow. They also need nutrients and water from the soil and carbon dioxide from the air. In this process that plants use to create their own energy from the sun, they also release oxygen back into the air.

Unlike plants, animals do not create their own energy. They eat plants and other animals to get their energy. This is why we call them consumers—they *consume* other organisms for energy. Animals that eat only plants are called herbivores. Animals that eat other animals are called carnivores. Other animals, like many humans, that eat both plants and animals are called omnivores. Like plants, animals need extra things in order to survive and grow. They also need water and oxygen from the air in order to convert what they eat into energy they can use. As a result of this process, they also release carbon dioxide back into the air.



There is also a third category of organisms that are very important to the functioning of an ecosystem, but they are rarely talked about. Decomposers are organisms that recycle nutrients from dead plants and animals and return them to the soil to be used again by new plants.

  
As you can see, plants and animals in an ecosystem all rely on each other to live! Scientists sometimes describe these interactions using a food web. Food webs are models that show how matter and energy are transferred between different living things in an ecosystem. In a food web, arrows are drawn in the direction that matter or energy is flowing; in other words, towards the organism that is doing the consuming. In today’s task, you will be making a model that is similar to a food web, but also includes non-living matter, rather than just living organisms.