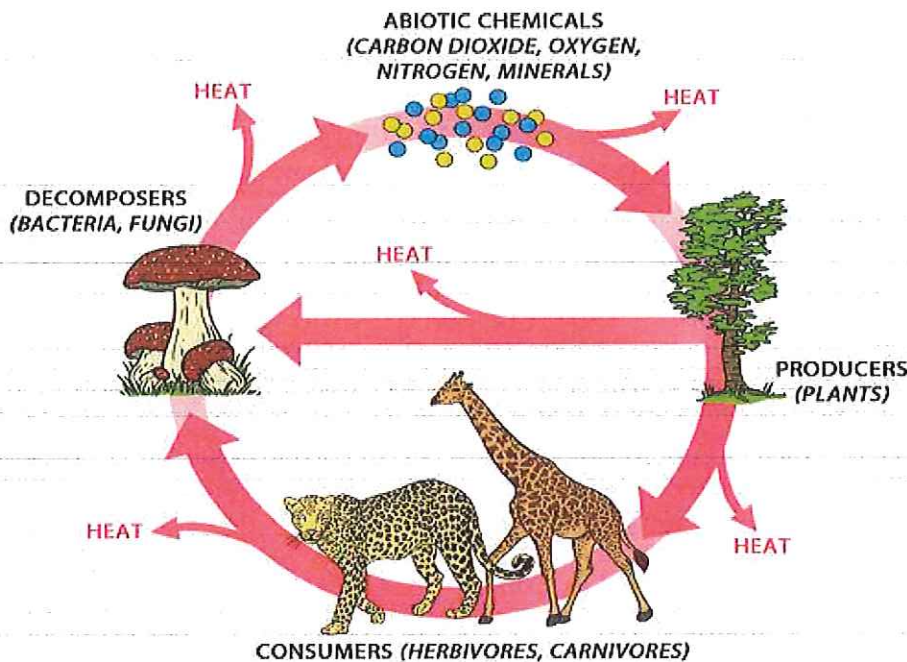


How Matter Moves Through Ecosystems

Living things need nonliving matter as well as [energy](#). What do you think matter is used for? It's used to build bodies. It's also needed to carry out the processes of life. Any nonliving matter that living things need is called a **nutrient**. Carbon and nitrogen are examples of nutrients. Unlike [energy](#), matter is recycled in [ecosystems](#). In the figure below, you can see how (**Figure below**).

- Decomposers release nutrients when they break down dead organisms.
- The nutrients are taken up by plants through their [roots](#).
- The nutrients pass to primary consumers when they eat the plants.
- The nutrients pass to higher level consumers when they eat lower level consumers.
- When living things die, the cycle repeats.



This diagram shows two cycles. One is the cycle of [energy](#), the other is the cycle of matter. Compare the two cycles. Do you see how the [Sun](#) keeps adding energy? That's because energy is lost at each step of the cycle. Matter doesn't have to be added. Can you explain why?[Figure1]

Summary

- Nutrients are crucial to the growth of organisms.
- Decomposers break down dead organisms into nutrients and gases so that they can be used by other organisms.

- Nutrients can enter or exit an ecosystem at any point and can cycle around the planet.

• Review

1. How does the flow of matter differ from the flow of energy through an ecosystem?
2. How do nutrients move through an ecosystem?
3. What would happen to life on Earth if there were no decomposers? Why?