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# EARTH HERO



• Ecosystem • Forest • Animal • Environmental Issue • Actions



# WHAT IS AN ECOSYSTEM?



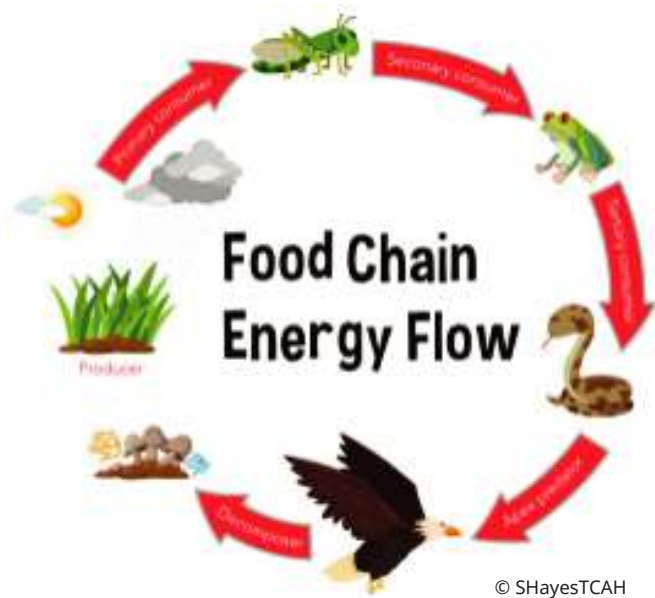
Our earth is spectacular and unique. It is a complex ecosystem. Do you know what an ecosystem is? An ecosystem is a community of living and non-living components in an area that interacts with each other. Living components include plants and animals, while non-living examples are water, rocks, soil, weather, sand. Together, they make up a very special place called an ecosystem!



Scientists consider the largest ecosystem to be our home planet, Earth. Ecosystems can be small, medium or large. For example, a puddle can be classified as a small ecosystem. This small puddle might have green plants, aquatic animals and water but is considered as an ecosystem.

An example of a larger ecosystem would be the rainforest biome because there are many different living and nonliving components that interact in this environment. The tropical rainforest includes hundreds of ecosystems, including canopies, understories, forest floors. These ecosystems support vast food webs. Canopies are ecosystems at the top of the rainforest, where tall, thin trees such as figs grow in search of sunlight. Canopy ecosystems also include other plants, called epiphytes, which grow directly on branches. Understory ecosystems exist under the canopy. They are darker and more humid than canopies. Animals such as monkeys live in understory ecosystems, eating fruits from trees as well as smaller animals like beetles. Forest floor ecosystems support a wide variety of flowers, which are fed on by insects like butterflies. Butterflies, in turn, provide food for animals such as spiders in forest floor ecosystems. In one large ecosystem consists of many small ecosystems. That is why Rainforests are often called the lungs of the planet.





Living things need energy to grow, breathe, reproduce, and move. Each component in an ecosystem has a role to play which can be generally classified as a producer, a consumer, or a decomposer. Energy cannot be created from nothing, it must be transferred through the ecosystem.

Did you know that the primary source of energy for almost every ecosystem on Earth is the sun? Primary producers use energy from the sun to produce their food. The energy is used in the form of glucose, and then primary producers are eaten by primary consumers who, in turn, are eaten by secondary consumers, and so on. With that, energy flows from one trophic level, or level of the food chain, to the next. One of the examples of this energy transfer is the food chain. Every link in the chain represents a new trophic level. The transformations of the links show energy being passed along the chain.



At the bottom of a food chain is always the primary producer. For instance, in terrestrial ecosystems, most primary producers are plants, and in marine ecosystems, most primary producers are phytoplankton. Both produce most of the nutrients and energy needed to support the rest of the food chain in their respective ecosystems. Therefore, every factor in an ecosystem depends on every other factor, either directly or indirectly. Each role is crucial in creating a healthy and balanced ecosystem. What do you think will happen to the ecosystem when there is no balance?



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An ecosystem's health depends on a delicate balance among all its members and the environment. If something disturbs the balance, the ecosystem and all its members may suffer. Natural things that can disturb ecosystems include a changing climate and natural disasters. Human activities such as polluting and clearing land for farms or buildings also can disturb ecosystems. All living things in an ecosystem cannot survive alone. Therefore, an equity balance in an ecosystem is important to maintain a healthy ecosystem.