

Life Cycles: What is an ecosystem?

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A tropical rainforest is an example of an ecosystem. Photo from: Pixabay.

An ecosystem is made up of all of the living and nonliving things in an area. This includes all of the plants, animals and other living things that make up the communities of life in an area. An ecosystem also includes nonliving materials — for example, water, rocks, soil and sand. A swamp, a prairie, an ocean and a forest are examples of ecosystems.

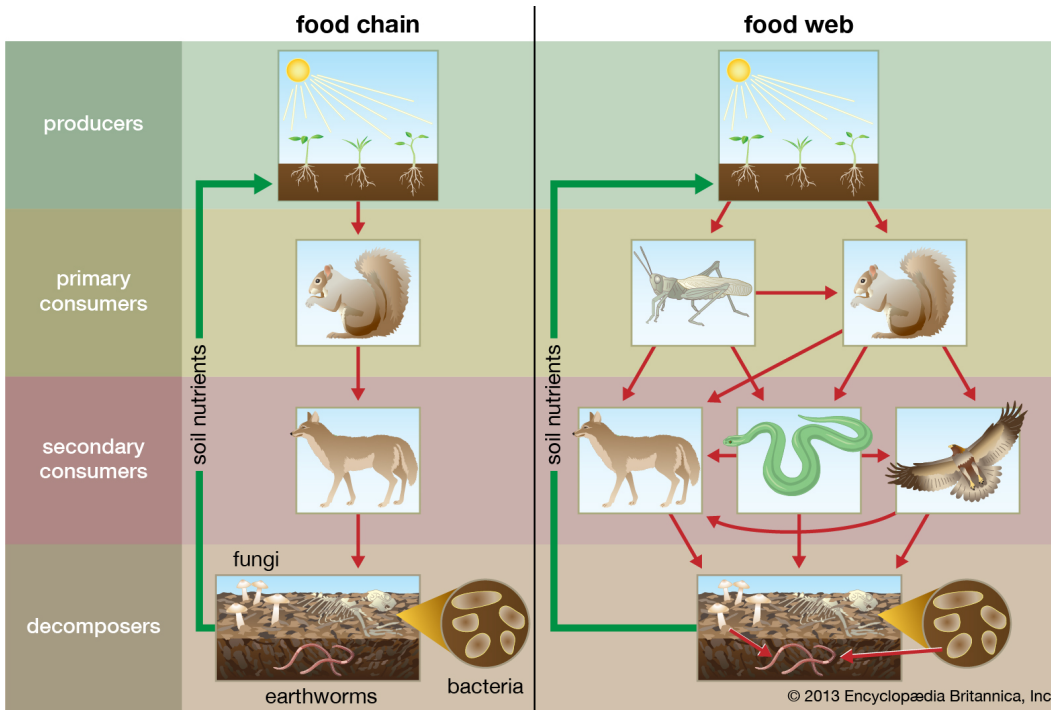
An ecosystem usually contains many different kinds of life. A grassland, for example, is an ecosystem that contains more than just grass. It includes other plants, mammals, insects, earthworms and many tiny living things in the soil.



Using paragraphs 1 & 2, paraphrase the definition of ecosystem.

_____ is characterized by _____.
_____ can be identified as _____.

Three Roles



Each living thing in an ecosystem has a role to play — as a producer, a consumer or a decomposer. Green plants are producers. They make their own food through a process called photosynthesis. Animals, including humans, are consumers. They eat, or consume, plants or other animals. Bacteria and other living things that cause decay are decomposers. Decomposers break down the waste products and dead tissue of plants and animals. They return nutrients to the soil, where new plants grow. The way that producers, consumers and decomposers provide nutrients for one another is called a food chain.



Feeding Levels

A food chain describes the sequence in which matter and energy move through the feeding levels of an ecosystem. The levels of a food chain are essentially the same across all ecosystems. The first level is the producers. After that is the consumers. Sometimes consumers are further divided into primary consumers, secondary consumers and tertiary consumers. The final link in all food chains is the decomposers, which break down dead organisms and natural waste.

The consumers at the top feeding level of a food chain are called top predators. They have no predators. Instead, their population size is controlled through competition.

Paragraph 3:
What are the different roles plants and animals play within an ecosystem?

_____ are/is an example of _____ and _____.

_____ can be identified as/by _____.

Quiz

- 1 Which detail would be most important to include in a summary of the article?
- (A) The way that producers, consumers and decomposers provide nutrients for one another is called a food chain.
 - (B) A grassland, for example, is an ecosystem that contains more than just grass.
 - (C) Sometimes consumers are further divided into primary consumers, secondary consumers and tertiary consumers.
 - (D) The consumers at the top feeding level of a food chain are called top predators.

- 2 Read the following paragraph.

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 might suffer. Natural things that can disturb ecosystems include a changing climate and natural disasters. Human activities that can disturb ecosystems include polluting and clearing land for farms or buildings.

What is the main idea of the paragraph?

- (A) Human activity cannot disrupt the balance of an ecosystem.
- (B) If something disturbs the balance of an ecosystem, only the producers suffer.
- (C) Both natural and human activities can disturb the balance of an ecosystem.
- (D) Invasive species can threaten ecosystems.

- 3 Look at the graphic in the section "Three Roles." Which selection from the article is BEST described by this graphic?
- (A) Diagrams called energy pyramids are used to show the flow of energy from one feeding level to the next in a food chain.
 - (B) When consumers eat the plants, the nutrients enter the consumers' tissues. Consumers that are eaten transfer the nutrients on to the predator at the next feeding level. Consumers that are not eaten die and transfer nutrients in their decaying tissues to the decomposers that feed on them. The decomposers recycle these nutrients back into the ecosystem.
 - (C) The consumers at the top feeding level of a food chain are called top predators. They have no predators. Instead, their population size is controlled through competition.
 - (D) Water, carbon, nitrogen and other elements constantly circulate through an ecosystem. Carbon and oxygen from carbon dioxide as well as nutrients from soil enter into plant tissues.
- 4 Look at the chart "Energy Pyramid" in the section "Energy Flow." How does the chart relate to the main idea of the article?
- (A) by highlighting the important role decomposers play in the environment
 - (B) by showing how consumers can be of three types
 - (C) by showing the effects of invasive species
 - (D) by showing how energy is transferred at all feeding levels of the ecosystem