Interactions of Living Things
Study Guide

What does extinction mean? Extinction means the permanent disappearance of a species.

What is an ecosystem? An ecosystem is a group of living and nonliving things that depend on each other.

What is the difference between living and nonliving? Living things must have food and water, and they grow and die. Nonliving things are not alive, so they don't have any needs.

How does energy flow through an ecosystem? Radiant energy enters as ecosystem from the Sun and is absorbed by the plants. Animals eat the plants, and energy is transferred from them.

How could you model the effect of change on an ecosystem? Answers will vary. Sample student answer: You could draw a food chain and then cross out one of the animals. Then you could show how the other organisms respond to the change.

What would result from the overabundance of plants in an ecosystem? An overabundance of any organism can disrupt an ecosystem. An overabundance of plants could lead to an increase in plant death due to competition over limited resources.

What environmental changes or events could cause an animal population to perish or move? Answers will vary. Possible answers include humans taking part of their food sources (hunting, picking berries or fruits), humans polluting the ecosystem, or extreme weather (hurricanes, extreme temperatures).

What are the parts of an ecosystem? Ecosystems are made up of all the living and nonliving components of a particular area.

Which do you think causes more changes to ecosystems: drought or flood? Why? Answers will vary. Possible answer: I think a flood causes more damage to ecosystems because many animals live on or in the ground. Those animals would drown or be forced to leave.

What clues could you look for to determine what event caused a change in an ecosystem? I could look for burn marks (fire), water lines on trees (flood), and cracking ground (drought) to determine what event caused a change in an ecosystem.

What would happen if half of the amount of grass on Earth suddenly died? If half of the amount of grass on Earth suddenly died, many things would happen. First, many animals would have to find a new food source or perish. Next, since more animals would be eating other plants, the animals who were already eating them would decrease. Finally, as the plant eaters decreased, the amount of food for the meat eaters would decrease and so would their population.

Can you predict the outcome if rabbits became scarce in a forest ecosystem? The predators that eat the rabbits would decrease because their own food source would decrease. Alternatively, the plants (that are eaten by rabbits) would increase in the ecosystem.

What is a food chain? A food chain shows one path of the Sun's energy as it is passed from one organism to another.

What are decomposers? Decomposers are plants, bacteria, and consumers that break down dead plant and animal materials to get energy.

Why are plants called producers? Plants are called producers because they produce their own food.

Why are animals called consumers? Animals are called consumers because they have to consume, or eat, other organisms to get energy.

Where does an organism get its energy? An organism gets its energy from food, either by making it or consuming other organisms.

What source can all energy be traced back to? The Sun is the source that all energy can be traced back to.

Describe how the Sun's energy flows through a food web. Plants collect the Sun's energy and use it to make food. When a consumer eats the plant, the Sun's energy is passed to the animal. When that animal is eaten by another animal, the Sun's energy is passed to the other animal.

What is a food web? A food web is a connection of food chains with many food energy paths in an ecosystem.

What is the difference between a food chain and a food web? A food chain shows only one path of the Sun's energy as it is passed from one organism to another. A food web shows many interconnected food chains.

How do we fit into the food web? Humans are one of the top consumers in a food web. We eat meat, cows, chickens, turkey, pigs, and many plants. We don't need to hunt in the wild for food anymore; now we raise animals for eating on special farms.

Why do living things need energy? Living things need energy in order to live and grow.

How do humans affect food webs? Humans affect food webs when they destroy habitats with the construction of houses and businesses. If an organism's habitat is destroyed, it must find a new habitat within that location, move to a new location, or die.

What would happen to the number of mice if the number of owls decreased? The number of mice (its prey) will increase because the mice will have one less animal hunting it.

What would happen to the number of owls if the number of mice decrease?The number of owls (the predator) will decrease since their food source has decreased.

Illustrate how a forest food web would be affected by a fire. Answers will vary but should include the increases and decreases caused by certain animals dying.

Illustrate the effects on the food web if a chemical company dumped chemicals into a pond. Answers will vary but should include the increases and decreases caused by certain animals dying.