

Circle of Life

An ecosystem is a living community that depends on each member and its surrounding environment. The living part of an ecosystem is sometimes called a food chain. Every participant in an ecosystem has an important part to play. Because rodents and lagomorphs are abundant plant eaters, they occupy an important position in the food chain of their ecosystem.



- Rabbit Skill:** Identify the role of rabbits in a food chain
- Life Skill:** Relating to others
- Success Indicator:** Charts the exchange of energy through a food chain
- Science Standard:** Understanding systems

« Hop to it! »

Diagram a food chain that includes the roles of rabbits and humans.

Food chain

Parts of the food chain:

The Sun, which provides the energy for everything on the planet.

Producers: these include all green plants. Producers are able to harness the energy of the sun to make food. Ultimately, every aerobic organism is dependent on plants for oxygen (the waste product from photosynthesis) and food (produced in the form of glucose through photosynthesis). They make up the bulk of the food chain.

Consumers: every organism that eats something else. They include *herbivores* (animals that eat plants), *carnivores* (animals that eat other animals), *parasites* (animals that live off of other organisms by harming it), and *scavengers* (animals that eat dead animal carcasses). Primary consumers are the herbivores, and are the second largest biomass in an ecosystem. The animals that eat the herbivores (carnivores) make up the third largest biomass, and are also known as secondary consumers.

Decomposers: mainly bacteria and fungi that convert dead matter into gases such as carbon and nitrogen to be released back into the air, soil, or water. Without decomposers, the earth would be covered in trash. Decomposers are necessary since they recycle the nutrients to be used again by producers.

Acknowledgment: Adapted from wildlife information from the Government of Alberta, Canada.



Rabbit Rap

Share What You Did

What is the relationship of humans to rabbits? How has this changed through time?

Process What's Important

Why was the rabbit domesticated? What are some of the benefits humans have received from the domestic rabbit?

Generalize to Your Life

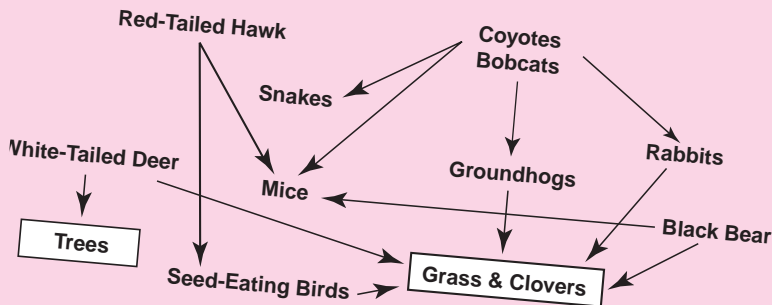
What other relationships do you have within the food chain?

Apply What You Learned

How do you develop relationships with other people? Home? School? Friends?

Pilot 9/15

Simple Food Web



Rabbit Facts

Lagomorphs

Lagomorphs

Lagomorphs are divided into two families, Leporidae (rabbits and hares) and Ochotonidae (pikas). Rabbits and hares are the best-known group, having the characteristic long ears and hind legs. Hares are generally longer-legged and larger-eared than rabbits.

Hares also differ from rabbits in the way they raise their young. Hares scrape out a depression on top of the ground for a nest. Young are born fully furred, with eyes open. Rabbits are born in an underground nest, naked, with eyes closed. These young require more care from the adults.

Rabbits and hares are mainly nocturnal in their habits.

Pikas look more like guinea pigs, but have the same tooth and skull structure as rabbits.

Predators

Most predators are opportunists. They hunt whatever prey is abundant and easy to catch. Because there is a variety of rodent and lagomorph species in an ecosystem, most predators do not concentrate their hunting on just one species. Thus, each prey species acts as a buffer to the others, and seldom endanger the existence of a particular prey population.

Cycles

Several species of mammals go through periodic cycles of population change. Over a period of time, a population will steadily rise in numbers, suddenly "crash" to very low numbers, only to rise again.

The snowshoe hare cycle is one of the best known. As the hares increase in numbers, they reduce their food supply, and individuals eat less desirable and less nutritious vegetation. Because hares are plentiful and easy to find, more predators feed on them. Eventually one of several diseases, a chief cause of population crashes, kills all but the most hardy individuals.

Acknowledgment: "Cycles" Source: Government of Alberta, Canada

Bounding Ahead

1. Prepare and give a presentation on how humans have affected the life cycle of other animals.

a.k.a. Domestic Rabbit

Each animal and plant has an internationally recognized scientific name and that name must be unique. Scientific animal names are in two parts, the “genus” and then the “species”. These names are called scientific nomenclature. Scientific nomenclature is usually Latin or Greek and follows the guidelines of the International Code of Zoological Nomenclature (ICZN). The genus always starts with a capital letter, while the species name always starts with a lower case letter. Quite often the genus, species or both names describe an aspect of the animal.



Rabbit Skill:

Learn the genus and species of a domestic rabbit

Life Skill:

Developing an inquiring mind

Success Indicator:

Researches the scientific nomenclature of the domestic rabbit and determines the relationship with other rabbits and small mammals

Science Standard:

Biological evolution

“Hop to it!”

All organisms are arranged in a 7 level hierarchical order as follows:

Kingdom
Phylum
Class
Order
Family
Genus*
species*



Where did I come from?

*Genus and species comprise the *scientific name*.



Outline a seven-level hierarchy of the domestic rabbit in the space provided paying close attention to Order and Family.

Rabbit Rap

Share What You Did

What did you discover about the various breeds of domestic rabbits?

Process What's Important

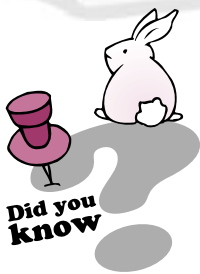
What animals are related to the domestic rabbit? Which are not as closely related as you first thought? Why?

Generalize to Your Life

Why is being able to discover answers as important as knowing the answer?

Apply What You Learned

What other methods do you use to learn information?



Did you know

Rabbit species generally have smaller ears and shorter, less powerful legs than hares.

Rabbit Facts

Rabbit History

At one time, rabbits were believed to be members of the Order: Rodentia, meaning, "to gnaw." Rodents make up a large portion of the world's population of mammals, including mice, rats, gophers, squirrels, beaver, etc. Further scientific analysis revealed that rabbits have a significant anatomical difference from rodents, particularly in tooth structure. Rabbits were given a separate Order: Lagomorpha, meaning, "hare-shape."

Domestic rabbit, is the only species in its genus and was originally confined to a small area in Europe and northwest Africa, but due to human action and the rabbits' own adaptability, the species today exists in the wild on every continent except Asia and Antarctica. Domesticated *O. cuniculus* are found worldwide.

O. cuniculus is generally nocturnal, spending its days underground and foraging from evening until morning. Though generally silent, rabbits are capable of making loud screams when frightened or injured. They communicate with each other through scent cues and touch, and thump their hind limbs on the ground to warn of danger. Home range is usually under 50 acres and often as small as one or two acres. Males' home ranges are twice as large as those of females, and overlap with those of several females.

Bounding Ahead

1. Give a presentation on the seven-level hierarchy of the domestic rabbit.
2. Develop a game to help others learn how to identify organisms.