

Nova's Food Chain Mastery: Science Flashcards

Learning objective: To identify and describe the roles of producers, predators, and prey within a food chain, and to understand how energy is transferred through an ecosystem.

Use these cards to test your knowledge of food chains. Read the front, think about your answer, then check the back. For the 'Greater Depth' questions, try to explain your reasoning in detail.

What is a Producer?

A living thing, usually a plant, that makes its own food using sunlight through the process of photosynthesis.

Explain the difference between a predator and prey.

A predator is an animal that hunts and eats other animals for food, while prey is the animal that gets hunted and eaten.

What does a consumer do in a food chain?

A consumer is an organism that cannot make its own food and must eat other plants or animals to gain energy.

Define a herbivore and provide an example.

A herbivore is an animal that only eats plants. Example: A rabbit or a caterpillar.

What is the primary source of energy for almost all food chains?

The Sun provides the initial energy that plants use to grow.

What is an omnivore?

An animal that eats both plants and other animals to survive.

Justify why an ecosystem would struggle if all the producers were removed.

Without producers, the primary consumers would have no food, causing the entire food chain to collapse as energy would no longer be available to the ecosystem.

Compare and contrast a food chain and a food web.

A food chain shows a single path of energy transfer, while a food web shows how multiple food chains overlap and connect within an ecosystem.

What might happen if a top predator suddenly disappeared from an ecosystem?

The population of its prey might increase rapidly, which could lead to overgrazing or the depletion of resources, eventually unbalancing the whole environment.

Explain why energy is lost as it moves along a food chain.

As organisms live, move, and grow, they use up much of the energy they have consumed, meaning only a fraction is passed on to the next consumer.

Describe the role of a decomposer in nature.

Decomposers, such as fungi or bacteria, break down dead plant and animal matter, returning vital nutrients back into the soil for producers to use.

Predict the impact of a drought on a local food chain.

A drought would reduce the growth of producers (plants), which would decrease the energy available to herbivores, subsequently leading to a decline in the populations of predators.