

Nova's Food Chain Explorers

Learning objective: To identify and classify living things as producers, predators, and prey, and to construct and interpret food chains.

Read each card carefully. Use your scientific knowledge to identify the role of each organism in the food chain. For the Greater Depth questions, think critically about what happens when one part of the chain is removed.

What is a Producer?

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

Define a Consumer

A living thing that eats other plants or animals to get energy because it cannot make its own food.

What is the difference between a Predator and Prey?

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

In a food chain, what do the arrows represent?

The arrows represent the flow of energy from one organism to another.

Explain why almost all food chains start with a green plant.

Plants are producers that harness energy from the sun, which is the primary source of energy for almost all life on Earth.

Compare and contrast a herbivore and a carnivore.

A herbivore only eats plant material (producers), whereas a carnivore eats other animals (consumers). Both are types of consumers.

Justify why an apex predator is important to a healthy ecosystem.

Apex predators control the population size of other animals, preventing any one species from overconsuming resources and destroying the habitat.

What might happen to a food chain if a primary consumer became extinct?

The predator that relies on that consumer would lose its food source, and the producer (which the consumer ate) might overgrow, leading to an imbalance in the ecosystem.

Is a human an omnivore? Explain your reasoning.

Yes, humans are omnivores because our diet typically consists of both plant-based foods (like vegetables and grains) and animal-based foods (like meat or fish).

Design a 4-stage food chain using a woodland habitat.

Possible answer: Sun -> Oak Tree -> Caterpillar -> Blue Tit -> Sparrowhawk.

If a farmer sells £50 worth of crops, how does that relate to a food chain?

The crops are producers; the farmer is a consumer who benefits from the energy stored by the producers.

Why are decomposers essential at the end of a food chain?

Decomposers break down dead plant and animal matter, returning vital nutrients to the soil so producers can grow again.