

Energy and the Food Chain

Level 6

Just like cars need fuel to drive and phones need charged batteries to function, plants and animals need energy to survive. Where do plants and animals get their energy? All living things get their energy from the sun. Plants get energy directly from the sun. Animals get energy indirectly from the sun.

Producers

Plants are known as producers because they use the sunlight to produce their own energy. Green plants (and some other organisms) absorb sunlight and turn it into energy that allows them to grow. This process is called photosynthesis.

Consumers

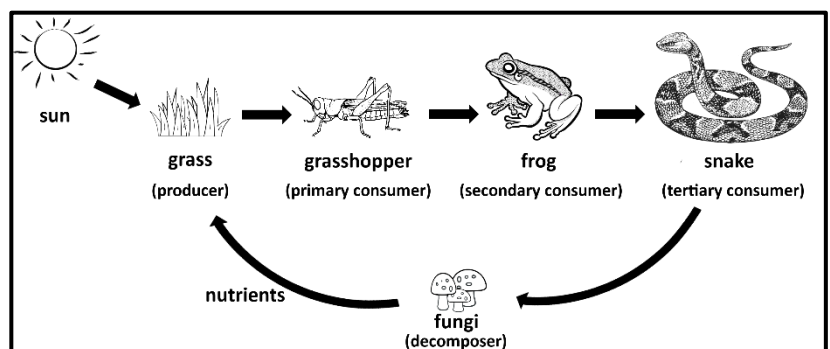
Consumers get their energy from other living things; they do not produce their own. Animals are consumers. They eat plants and other animals and take their energy. Animals that eat only plants are called herbivores. Herbivores are primary consumers. Primary consumers get their energy directly from producers. Animals that eat herbivores are called secondary consumers. Animals that eat other animals are called carnivores. Tertiary consumers get their energy by eating other carnivorous animals.

Omnivores are animals that eat both plants and animals. These animals switch between the different orders of consumers.

Decomposers

Decomposers such as worms, bacteria and fungi, get their energy from eating dead plants and animals. It is because of decomposers that dead organisms begin to rot or decompose. Decomposers are sometimes referred to as recyclers. They allow the nutrients trapped in the dead organisms to be released back into the soil. These nutrients allow plants to grow.

Food chains show single ways that energy moves through an ecosystem. The arrow shows the direction the energy moves. The example pictured shows that grass uses the sunlight to produce its own energy. The grass is eaten by the grasshopper and its energy is passed on. The grasshopper is a primary consumer as it gets its energy directly from a producer. The energy is then passed to the frog. The frog is a secondary consumer as it gets its energy from a herbivore. The tertiary consumer, the snake, eats the frog, taking its energy. When the snake dies, decomposers such as fungi help return the nutrients to the soil so the food chain can start all over again.



Questions

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1. What is an omnivore?

2. Why are plants known as producers?

3. What order of consumers are herbivores? _____

4. Which statements are correct? Write 'True' or 'False' next to each.

- A primary consumer is a carnivore. _____
- Tertiary consumers help return nutrients to the earth. _____
- Secondary consumers eat primary consumers. _____
- Animals get their energy directly from the Sun. _____

5. What do the arrows in a food chain represent?

6. Why are decomposers also known as recyclers?

7. Explain how animals get their energy from the sun.

8. Explain how other plants and animals would be affected if decomposers didn't do their job.



Answers

Energy and the Food Chain

1. What is an omnivore?

An omnivore is an animal that eats both plants and other animals. – Level 6

2. Why are plants known as producers?

Plants are known as producers because they use sunlight to 'produce' their own energy.

3. What order of consumers are herbivores? Herbivores are primary consumers.

4. Which statements are correct? Write 'True' or 'False' next to each.

- A primary consumer is a carnivore. False
- Tertiary consumers help return nutrients to the earth. False
- Secondary consumers eat primary consumers. True
- Animals get their energy directly from the Sun. False

5. What do the arrows in a food chain represent?

The arrows represent the direction in which the energy moves.

6. Why are decomposers also known as recyclers?

Decomposers are called recyclers because they 'recycle' nutrients by putting them back into the food chain.

7. Explain how animals get their energy from the sun.

Animals get their energy from the sun because they eat plants (or animals) further down the food chain which at some point, got their energy from the Sun. In this way, everything, including humans, gets its energy from the Sun.

8. Explain how other plants and animals would be affected if decomposers didn't do their job.

The nutrients from plants and animals that have died would be lost. This would mean the soil would lack the nutrients needed to grow healthy plants, which would mean that herbivores would have no food. In turn, this would affect all animals.

