

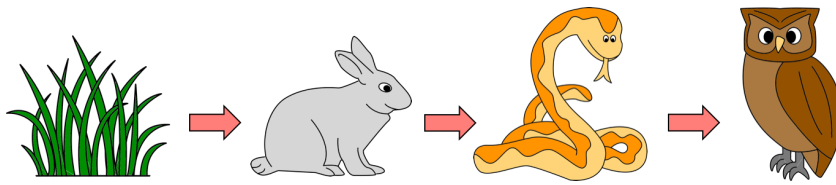
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● Food Chains Reading Passage (Version 2)

FOOD CHAINS

A **food chain** is a linear sequence of feeding relationships between organisms. It shows how organisms are related to each other by what they eat. The length of a food chain is variable but it is not indefinitely long. Usually it isn't longer than five organisms. As the length of a food chain increases, the amount of energy passed from one organism to the next decreases. Eventually, food can't provide enough energy to continue the food chain.



We illustrate food chains in a diagram with arrows. Arrows point to show how food “moves” from one organism to the next. They show where the food is going to.

The first organism in a food chain is always a producer, either a plant or alga. A second organism eats the producer. This organism is called the **primary consumer**. A third organism eats the primary consumer. It is called the **secondary consumer**. A fourth organism eats the secondary consumer. It is called the **tertiary consumer**. All food chains end with a decomposer. The decomposer breaks down dead or decaying organisms of the food chain and waste produced by organisms in the food chain. The decomposer transforms these materials into organic matter. Organic matter is rich in nutrients and minerals. The organic matter becomes incorporated into soil. Plants absorb nutrients in the soil, specifically minerals. It uses minerals to help build plant parts. In this way, decomposers are recyclers, returning nutrients “back” to the environment.

Food chains usually only show organisms. However, the sun plays a vital role in food chains. A food chain really begins with the sun. The sun provides energy. Plants use the sun's energy to make food, which is consumed by primary consumers. Secondary consumers feed on primary consumers. Tertiary consumers feed on secondary consumers and so on. Plants are the first source of food that originated from energy of the sun. This is why we often say the sun provides energy for all living things on Earth.

A food chain is not a realistic representation of feeding relationships in natural environments. In natural environments, organisms feed on more than one thing. This creates complex feeding interactions between many organisms called a **food web**. A food web is a network of many food chains. It shows how organisms are part of multiple food chains. It also shows how organisms feed on different things. A food web illustrates the links between all organisms in an ecosystem. They also demonstrate how feeding habits of one organism affect other organisms it doesn't directly interact with. Food webs also show how organisms adapt their feeding habits to changes in food sources. If a primary consumer is removed from an ecosystem, there will be changes to populations of other organisms. The plants eaten by this organism may flourish. The population of organisms that fed on the primary consumer must feed on a different food source. If these organisms cannot adapt to eat a different food source, they may starve.

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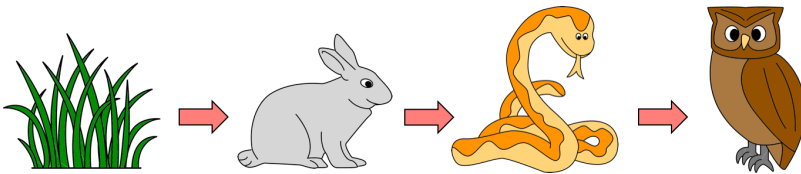
● Food Chains Answer Sheet (Version 2)

Questions

1. What is a food chain? What starts and ends every food chain?

2. How long is a food chain? Explain.

3. What is the relationship between the organisms in the food chain below?



4. What is missing in the food chain from question three? Justify your answer.

5. Why is a food web a better model of feeding interactions in an ecosystem? How can it be better used to study feeding relationships between organisms?
