

Directions: Read the passage below and answer the question(s) that follow.

Source 1: Food Chains: Pathways of Energy / Source 2: The Human Effect

Source 1: Food Chains: Pathways of Energy

Every living thing in the world needs energy to live. Plants and animals have sources of energy. The pathway that energy travels is called a food chain.

Each living thing has a position in the food chain. This position is known as the trophic level. A food chain can only go in one direction. Food chains usually have between three and five levels.

The first step of the food chain is the producer. This is a living thing that can make its own energy from the sun. Plants are producers. They supply the energy for all the animals in the food chain.

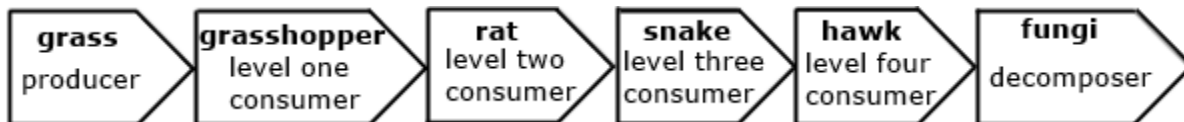
The second step of the food chain is the level one consumer. This is an animal that eats only plants. It is also called an herbivore.

The third step of the food chain is the level two consumer. This is an animal that eats only herbivores. Any animal that eats only other animals is a carnivore and a predator. Any animal that is eaten by another animal is known as prey.

The fourth step of the food chain is the level three consumer. This is a carnivore that eats only other carnivores.

The fifth step of the food chain is the level four consumer. This animal is the top predator and has no natural enemies. The top predator is a carnivore.

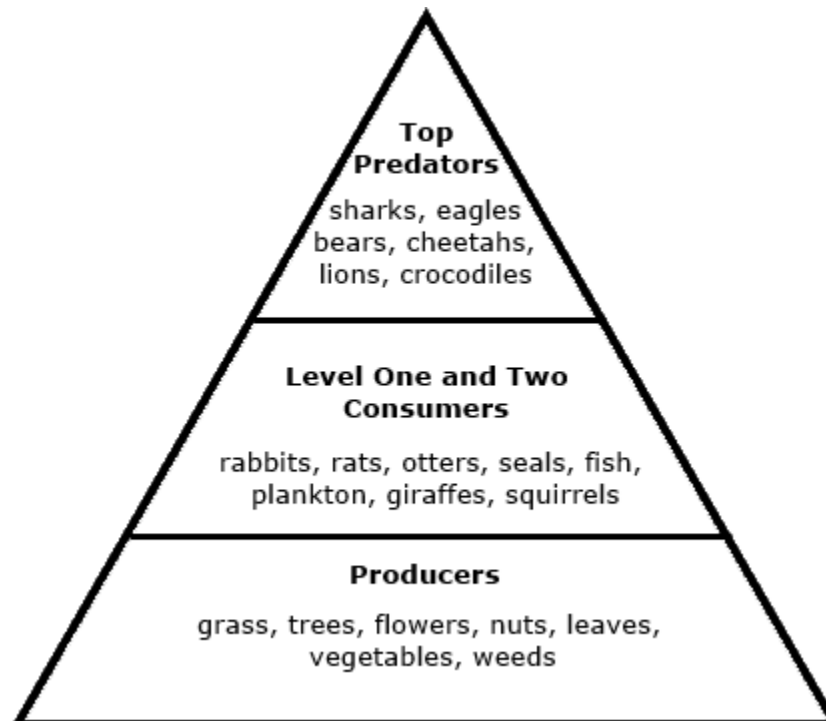
The final step of the food chain are the decomposers. Decomposers, or bacteria and fungi, break down dead animal matter to put energy back into the soil for plants to use.



A food chain only works if its plants and animals are alive. If one step of the food chain dies off, it hurts the entire chain. In the chain above, if the grasshoppers all died out, the rats would have to eat grass. Grass would not give rats the energy they need to survive. Without rats, snakes would lose their energy source.

The energy that travels through the food chain lessens as it goes from plants to top predators. There are more plants than animals because plants make their own energy and feed all the animals. With each step up the food chain, energy is lost. As a result, there are more producers than level one consumers, more level one than level two, and so on up the food chain. It ends up like a pyramid. Top predators are the smallest group.

Directions: Read the passage below and answer the question(s) that follow.



Where are humans in the food chain? Humans have a major impact on every step of the world's food chains. Because we are so powerful, humans should care for the world. Even with all its ordered steps, a food chain is easily broken if one step is missing.

Source 2: The Human Effect

Every living thing gets its energy by being part of a food chain. Predators are typically the strongest animals in food chains. Many would guess that they control food chains. This is not the case. In today's world, humans control most food chains. What humans eat and how humans live both have a huge impact on the world's food chains. In fact, humans are harming most food chains.

The way humans eat affects food chains. Humans eat plants and animals in food chains. People can eat in a responsible way and not hurt food chains. We can eat organic foods that do not put harmful chemicals into the soil. We can also eat animals in a sensible way. When people eat thoughtfully, they can help food chains stay strong.

The way humans live also affects food chains. When cities expand, many natural areas are harmed. Trees are chopped, plants are cleared. Humans often break food chains when they build in natural areas.

Pollution is also a major problem for food chains. Pollution from humans harms water, air, and soil. When soil is damaged, so are plants. When plants die, small animals have nothing to eat. The trouble goes all the way up the food chain.

Natural extinction of any species is rare. This is because the environment was made to be balanced. When humans eat and act carelessly, this balance is upset. Many species have already been wiped out. Humans need to know their effect on food chains. Humans need to help.

Directions: Answer the following question(s) relating to the passage titled "Source 1: Food Chains: Pathways of Energy / Source 2: The Human Effect".

1 Which detail from "Food Chains: Pathways of Energy" *best* supports the inference that plants are the most important level in a food chain?

- A. Each living thing has a position in the food chain.
- B. Plants are producers. They supply the energy for all the animals in the food chain.
- C. This is an animal that eats only plants. It is also called an herbivore.
- D. Decomposers, or bacteria and fungi, break down dead animal matter to put energy back into the soil for plants to use.

2 Read the paragraph from "The Human Effect."

Humans need to help.

Which of the following *best* describes why the author ended the passage, "The Human Effect" with this sentence?

- A. to tell the reader that the author is doing what he can to help food chains
- B. to show how much effort humans are giving to protect food chains
- C. to explain that the author is thankful that humans are helping
- D. to emphasize to the reader that humans need to take action to save food chains

3 Read the paragraph from "Food Chains: Pathways of Energy."

Every living thing in the world needs energy to live. Plants and animals have sources of energy. The pathway that energy travels is called a food chain.

Which of these *best* describes why the author began with this paragraph in "Food Chains: Pathways of Energy"?

- A. to tell the reader that the author needs energy to survive
- B. to help introduce the topic of food chains to the reader
- C. to show the reader that the author is a plant and animal expert
- D. to introduce which plants and animals have the most energy

4 Which inference *best* describes the effect humans have on food chains in both "Food Chains: Pathways of Energy" and "The Human Effect"?

- A. humans have a major impact on food chains
- B. humans are helping protect food chains
- C. humans have a positive effect on food chains
- D. humans have no effect on food chains

5 Read this sentence from "The Human Effect."

People can eat in a responsible way and not hurt food chains.

Explain how this information helps the reader understand how steps of the food chain die off in "Food Chains: Pathways of Energy."

- A. Readers can understand that the food chain is not affected by what people eat.
- B. Readers can understand humans already eat responsibly within the steps of the food chain.
- C. Readers can understand that steps in the food chain are affected because of the animals that people eat.
- D. Readers can understand that humans protect the steps in a food chain.

Directions: Answer the following question(s) relating to the passage titled "Source 1: Food Chains: Pathways of Energy / Source 2: The Human Effect".

- 6 **Humans can cause damaging effects to the natural food chains. Choose two sentences from "The Human Effect" that best support this inference.**
- A. In today's world, humans control most food chains.
 - B. When people eat thoughtfully, they can help food chains stay strong.
 - C. Humans often break food chains when they build in natural areas.
 - D. Pollution from humans harms water, air, and soil.
 - E. Humans need to know their effect on food chains.
 - F. Humans need to help.

- 7 **This question has two parts. First, answer part A. Then, answer part B.**

Part A:

Read the sentences from "The Human Effect."

When soil is damaged, so are plants. When plants die, small animals have nothing to eat.

How does this help the reader understand the importance of plants in "Food Chains: Pathways of Energy"?

- A. All of the animals in the food chain eat plants.
- B. All levels in the food chain rely on plants.
- C. Plants are only important to the level one consumer.
- D. Plants complete the food chain because they are the last level.

Part B:

Which detail from "Food Chains: Pathways of Energy" best supports your answer in part A?

- A. Plants and animals have sources of energy. The pathway that energy travels is called a food chain.
- B. A food chain can only go in one direction. Food chains usually have between three and five levels.
- C. Plants are producers. They supply the energy for all the animals in the food chain.
- D. The second step of the food chain is the level one consumer. This is an animal that eats only plants.

- 8 **Read the sentences from "The Human Effect."**

We can also eat animals in a sensible way. When people eat thoughtfully, they can help food chains stay strong.

What is the meaning of the word sensible?

- A. easier
- B. swift
- C. slower
- D. smart

- 9 **Read the sentence from "The Human Effect."**

When cities expand, many natural areas are harmed.

What is the meaning of the word expand?

- A. get busy
- B. grow larger
- C. become dirty
- D. become smaller

Directions: Answer the following question(s) relating to the passage titled "Source 1: Food Chains: Pathways of Energy / Source 2: The Human Effect".

10 **W4.2; RI4.8**

Manage your time carefully so you can

- reread the passage
- plan your response
- write your response
- revise and edit your response

Be sure to include

- an introduction
- information from the passage for support
- a conclusion related to the information presented

Type your response in the space below.

The author of "The Human Effect" claims that humans have a huge impact on food chains all over the world.

What conclusion can be made about how the author of "The Human Effect" supports this claim? Be sure to include at least *two* details from the passage to support your answer.