



# Food Webs and Energy

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Grade: Grade 4

## Part A: Multiple Choice

Circle the best answer for each question.

1. In an ocean food web, phytoplankton are eaten by zooplankton, which are eaten by small fish. What trophic level are the small fish?

- A) first trophic level
- B) second trophic level
- C) third trophic level
- D) fourth trophic level

2. A forest food web has oak trees, deer, wolves, and mushrooms. Which organism recycles nutrients back to the soil?

- A) oak tree
- B) deer
- C) wolf
- D) mushroom

3. Why do food webs usually have fewer top predators than herbivores?

- A) Top predators are larger and need more space
- B) Only about ten percent of energy passes to each next level
- C) Herbivores reproduce more slowly than predators
- D) Predators eat only plants so they need less energy

4. A farmer removes all the hawks from a field ecosystem. What is the most likely short-term result?

- A) Mouse populations will decrease
- B) Grass populations will increase right away
- C) Mouse populations will increase because fewer predators eat them
- D) Snake populations will disappear

## Part B: Fill in the Blank

Write the correct answer on each line.

1. Plants convert sunlight into \_\_\_\_\_ energy through photosynthesis.
2. In a food web diagram, \_\_\_\_\_ show which direction energy moves.
3. A keystone species is one that many other organisms in a food web \_\_\_\_\_ on.
4. Organisms that eat at more than one trophic level, such as bears, are called \_\_\_\_\_.
5. The \_\_\_\_\_ percent rule means only a small fraction of energy moves to the next level.

**Part A: Multiple Choice**

Circle the best answer for each question.

1. In an ocean food web, phytoplankton are eaten by zooplankton, which are eaten by small fish. What trophic level are the small fish?

- A) first trophic level
- B) second trophic level
- C) **third trophic level**
- D) fourth trophic level

2. A forest food web has oak trees, deer, wolves, and mushrooms. Which organism recycles nutrients back to the soil?

- A) oak tree
- B) deer
- C) wolf
- D) **mushroom**

3. Why do food webs usually have fewer top predators than herbivores?

- A) Top predators are larger and need more space
- B) **Only about ten percent of energy passes to each next level**
- C) Herbivores reproduce more slowly than predators
- D) Predators eat only plants so they need less energy

4. A farmer removes all the hawks from a field ecosystem. What is the most likely short-term result?

- A) Mouse populations will decrease
- B) Grass populations will increase right away
- C) **Mouse populations will increase because fewer predators eat them**
- D) Snake populations will disappear

**Part B: Fill in the Blank**

Write the correct answer on each line.

1. Plants convert sunlight into chemical energy through photosynthesis.
2. In a food web diagram, arrows show which direction energy moves.
3. A keystone species is one that many other organisms in a food web depend on.
4. Organisms that eat at more than one trophic level, such as bears, are called omnivores.
5. The ten percent rule means only a small fraction of energy moves to the next level.