Ecosystems and Food Webs

Producers, consumers, decomposers, and what happens when a population changes

IN THIS PACKET YOU WILL LEARN TO

- ✓ Name producers, consumers, and decomposers
- ✓ Read a food chain and a food web
- ✓ Explain how energy moves through an ecosystem
- ✓ Predict what happens when one population changes

Name _____

Teacher _____

Class _____

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Roles in an Ecosystem

ANSWER KEY LEARN

Read each role with your teacher, then write the role that fits the last two organisms.

WORDS TO KNOW

producer	A living thing that makes its own food from sunlight, such as grass or algae.
consumer	A living thing that eats other living things.
herbivore	A consumer that eats plants, such as a rabbit or a deer.
carnivore	A consumer that eats animals, such as a hawk or a fox.
omnivore	A consumer that eats plants and animals, such as a bear or a raccoon.
decomposer	A living thing that breaks down dead plants and animals, such as a mushroom or a worm.

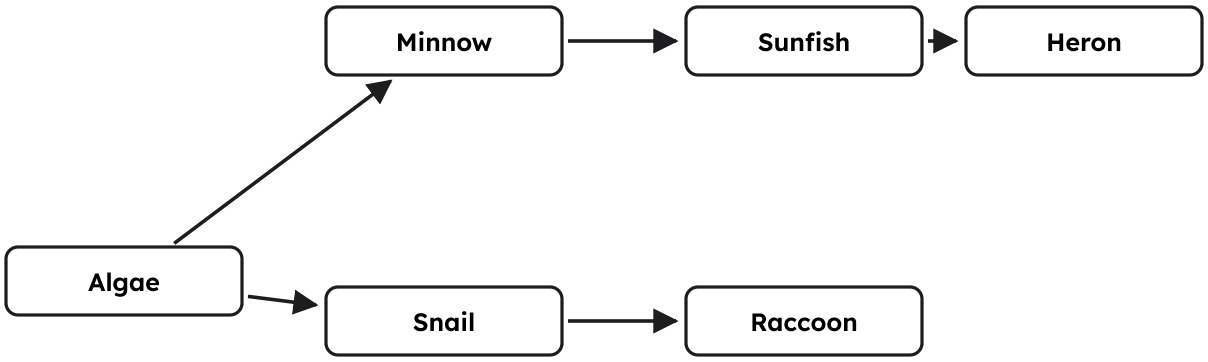
1. A grasshopper eats leaves. Role: **herbivore**

2. A mushroom grows on a fallen log. Role: **decomposer**

Food Chains and Food Webs

ANSWER KEY LEARN

Energy starts in the sun and moves from the food to the eater. Follow the arrows on this pond web.



REMEMBER

Each arrow points toward the eater. Algae to minnow means the minnow eats the algae, and the energy moves that way too.

Read the Pond Web

ANSWER KEY GUIDED PRACTICE

Use the pond web from the Learn page, and write complete sentences for each answer.

1. Name one producer in the pond web.

   algae

2. What does the sunfish eat, and what eats the sunfish?

   The sunfish eats minnows, and the heron eats the sunfish.

3. Write one food chain of four living things from this web.

   algae to minnow to sunfish to heron

Roles Practice

ANSWER KEY PRACTICE ★

Write producer, herbivore, carnivore, omnivore, or decomposer for each organism.

1. oak tree **producer**
2. deer **herbivore**
3. hawk **carnivore**
4. bear **omnivore**
5. earthworm **decomposer**
6. grass **producer**
7. rabbit **herbivore**
8. fox **carnivore**

Energy and the Ten Percent Idea

ANSWER KEY PRACTICE ★★

Only about ten percent of the energy in one level moves to the next level. Use the table, then answer the questions.

Energy in a meadow chain

Level	Example	Energy units
producers	grass	10,000
herbivores	grasshoppers	1,000
carnivores	frogs	100
top carnivores	hawks	10

1. Why does a hawk have far less energy than the grass in this model?

   Each consumer uses most of the energy it eats to live and move, so only a small part is left for the next eater.

2. If the grass held 20,000 units, about how many units would the grasshoppers hold?

   About 2,000 units, because about ten percent moves to the next level.

Sort the Organisms

ANSWER KEY | CUT AND PASTE

Cut out the twelve cards. Glue each organism under Producer, Consumer, or Decomposer.

Producer	Consumer	Decomposer
grass	rabbit	mushroom
algae	hawk	earthworm
oak tree	minnow	bacteria
kelp	heron	mold

✂

mushroom	grass	kelp	rabbit
oak tree	heron	mold	bacteria
hawk	minnow	earthworm	algae

Match the Ecosystem

ANSWER KEY MATCH

Read each organism on the left. Find the ecosystem on the right and write the letter on the line.

ORGANISM		ECOSYSTEM
1. saguaro cactus	E	**A** desert
2. kelp	B	**B** ocean
3. cattail	G	**C** pond
4. oak tree	D	**D** forest
5. camel	A	**E** desert
6. clownfish	H	**F** forest
7. frog	C	**G** pond
8. deer	F	**H** ocean

Ecosystem Riddle

ANSWER KEY RIDDLE

Write the word that fits each clue. The first letters, in order, answer the riddle.

Where do algae, snails, and herons live in this packet?

P	O	N	D
1	2	3	4

CODE TABLE

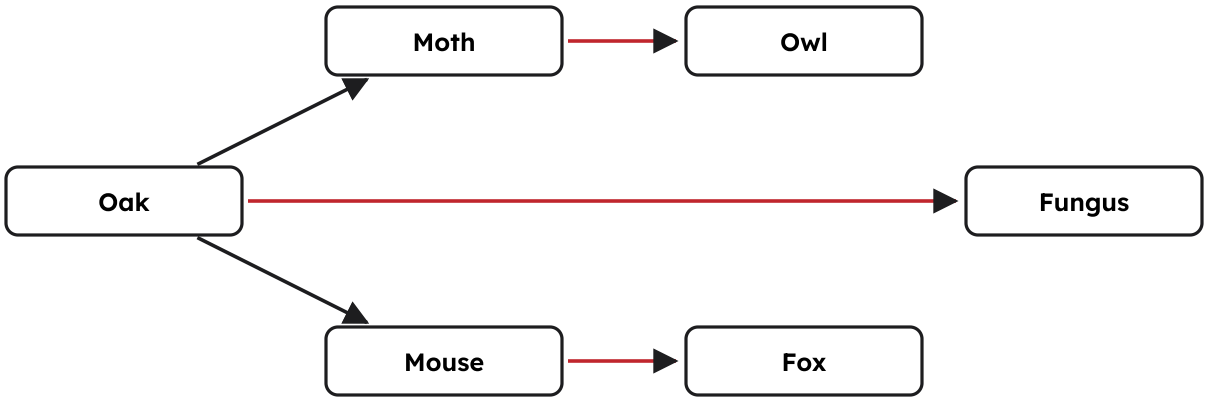
Decomposer	Forest	Hawk	Nutrient	Omnivore	Producer
D	F	H	N	O	P

1. A living thing that makes its own food: **Producer**
2. A consumer that eats plants and animals: **Omnivore**
3. A material plants take from the soil: **Nutrient**
4. The role of a mushroom: **Decomposer**

Complete the Forest Web

ANSWER KEY APPLY

Some arrows are already drawn. Write the missing links, then answer the question.



1. Which three arrows belong on this web, and which way do they point?

Moth to owl, mouse to fox, and oak to fungus, each pointing toward the eater or the breaker-down.

What If a Population Changes

ANSWER KEY WRITE ABOUT IT

Read the passage, then write what would happen if foxes left the meadow. Name at least two other living things.

A Meadow in June

by Trailpost

1 In a meadow, grass feeds rabbits, and rabbits feed foxes. Hawks also hunt the rabbits. When the grass grows tall after a wet spring, rabbit numbers rise, and then foxes and hawks have more food.

2 If the foxes left, the rabbits would have one fewer hunter. The grass might get eaten down, and the hawks might find hunting easier for a while.

1. What would happen to the rabbits and the grass if the foxes left? Use evidence from the passage.

Rabbit numbers would rise because they would have one fewer hunter, and the grass might get eaten down, as paragraph 2 says.

Find the Mistake

ANSWER KEY | ERROR ANALYSIS ★★

Each box shows a student's note. Tell what is mixed up, then write the note the right way.

Kai's food chain

heron to sunfish to minnow to algae

1. What is mixed up in Kai's chain, and which way should the arrows run?

Kai wrote the eaters first. Energy runs from algae to minnow to sunfish to heron.

2. Write the pond chain with the producer first.

YOUR WORK

algae to minnow to sunfish to heron

Rae's label

A mushroom is a producer because it grows on a log.

3. What is mixed up in Rae's label, and what is the right role?

A mushroom takes food from the dead log, so it is a decomposer.

4. Write a correct sentence about the mushroom.

YOUR WORK

A mushroom is a decomposer.

Mixed Review

ANSWER KEY REVIEW

Answer each question in a complete sentence.

1. Grass is a **producer**

2. A hawk is a **carnivore**

3. Write a food chain of three living things that could live in a forest.

oak to moth to owl

4. What happens to a hawk if the mice in its hunting ground disappear?

The hawk has less food, so it may leave, hunt something else, or its numbers may drop.

Exit Tickets

ANSWER KEY CHECK

Your teacher will cut this page on the dotted line so each student gets one ticket, and then the student answers both questions.

Ecosystems Exit Ticket

Name _____

1. A mushroom is a **decomposer**

2. Write a food chain of three living things from a pond.

algae to minnow to sunfish

Ecosystems Exit Ticket

Name _____

1. A mushroom is a **decomposer**

2. Write a food chain of three living things from a pond.

algae to minnow to sunfish

How Did I Do?

ANSWER KEY SELF-CHECK

Read each skill and put a check in the box that fits you best. Then answer the two questions at the bottom of the page.

Skill	I can do this on my own.	I can do this with a little help.	I am still learning this.
I can name producers, consumers, and decomposers.	☐	☐	☐
I can read a food chain and a food web.	☐	☐	☐
I can explain how energy moves through an ecosystem.	☐	☐	☐
I can predict what happens when one population changes.	☐	☐	☐
I can draw arrows toward the eater.	☐	☐	☐

1. Which skill do you want to practice more, and why?

Answers will vary. Look for a specific skill and a reason.

2. Which ecosystem from this packet do you want to learn more about, and why?

Answers will vary. Look for pond, forest, desert, or ocean and a reason.