4 Trophic levels

3.2 Examples of Ecosystems

A Field Ecosystem

A field's **autotrophs** are grasses and shrubs. The **heterotrophs** are mostly animals. The plants provide nutrients for **primary consumers** like rabbits and deer. These creatures provide nutrients for wolves and other **secondary consumers**.

Some animals fit into more than one **trophic level**. For example, **omnivores** eat **producers** as well as other **consumers**. Foxes and bears are examples of a field's omnivores.

Other creatures only eat plants and animals that are dead. In a field, these **detritus feeders** are small creatures like insects. Very small bacteria and fungi are **decomposers**. They break down dead material to feed producers.

Get ready!

1 Before you read the passage, talk about these questions.

1 What is an example of a producer?
2 What type of consumer is a wolf?

Reading

2 Read the textbook entry. Then, mark the following statements as true (T) or false (F).

1 __ Wolves are examples of primary consumers.
2 __ Producers sometimes eat foxes and bears.
3 __ Detritus feeders and decomposers use similar food sources.

Vocabulary

3 Match the words (1-5) with the definitions (A-E).

1 __ autotroph
2 __ heterotroph
3 __ trophic level
4 __ secondary consumer
5 __ primary consumer

A any organism that eats other organisms
B an organism that eats producers
C an organism's position in a food chain
D an organism that eats consumers
E an organism that utilizes nonliving compounds

4 Place the words and phrases from the word bank under the correct heading.

WORD BANK

producer omnivore decomposer
consumer detritus feeder

Utilizes nonliving compounds	_____ _____
Eats living organisms	_____ _____
Eats dead organisms	_____ _____

5 🎧 **Listen and read the textbook entry again. What are grasses and shrubs?**

Listening

6 🎧 **Listen to a conversation between two scientists. Choose the correct answers.**

1 What is the main idea of the conversation?

A how to reduce the number of producers
B why there are too many rabbits in a population
C which trophic level an organism belongs to
D how the loss of a consumer affects the ecosystem

2 Which organism gets its nutrients from decomposers?

A rabbit C hawk
B wolf D grass

7 🎧 **Listen again and complete the conversation.**

Scientist 1: Do you know anything about the crisis in Greenfield Meadow?
Scientist 2: Yes, I'm studying it. **1** _____ _____ rabbits were killed by hunters last year.
Scientist 1: That can't be good for the ecosystem. They're the **2** _____ _____.
Scientist 2: I know. Now the secondary consumers don't have **3** _____ _____ _____.
Scientist 1: That must affect the **4** _____ of wolves and hawks.
Scientist 2: It does. And without those animals, the **5** _____ won't have much to eat either.
Scientist 1: And then the producers, **6** _____ _____, don't get enough nutrients. Wow, that's bad.
Scientist 2: Yeah, we really need to increase the rabbit population.

Speaking

8 **With a partner, act out the roles below based on Task 7. Then switch roles.**

USE LANGUAGE SUCH AS:

That can't be good ...
Now the ... don't have enough ...
That must affect ...

Student A: You are a scientist. Talk to Student B about:

- a problem in an ecosystem
- how the problem affects trophic levels
- what needs to be done

Student B: You are a scientist. Talk to Student A about a problem in an ecosystem.

Writing

9 **Use the textbook entry and the conversation from Task 8 to fill out the environmental report.**

Public Environmental Report

Area: _____

Recent changes in the ecosystem: _____

_____

How changes affect trophic levels in the ecosystem:

_____

_____

_____