

12-10 What is balance in an ecosystem?

Balance An ecosystem is constantly changing. Sometimes the changes work together to keep the ecosystem stable. Then, the ecosystem is balanced. In a balanced ecosystem, the size of the population may go up and then go down. However, the average size of the population remains the same over time. Sometimes the balance in an ecosystem is upset. A change in the balance of just one species can be harmful to the other organisms in the ecosystem.

Natural Disturbances Natural causes such as a volcano, flood, or an earthquake can upset the balance of an ecosystem. These disturbances destroy organism and their habitats. There is a great loss of wildlife. It may take many years for the ecosystem to return to its original condition.



Fig. 12-26 A volcanic eruption destroyed the balance of this Hawaiian town.



Fig. 12-27 Pollution caused this bird's beak to become deformed.

The Role of People People also can upset the balance of an ecosystem. Often the actions of people destroy the habitats of other organisms. People cut down forests to create farms and towns. They build dams and dig mines. Unfortunately, the disturbances caused by people are often permanent. The ecosystem cannot return to normal.

People also damage the ecosystem by releasing harmful substances, or pollutants, into the environment. Harmful gases from cars, power plants, and factories pollute the air. Wastes and chemicals pollute the water. Improper disposal of waste materials pollutes the land. All of these acts upset the balance of nature.

Endangered Species Upsetting the balance of an ecosystem has made it hard for many species to survive. Species in danger of becoming extinct are called **endangered species**. The whooping crane, giant panda, elephant, and humpback whale are all endangered species.

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Lesson Review

Write the term that best completes each statement in the space provided.

1. In a balanced environment, the _____ size of the populations remains the same over time.
2. A change in only one population in an ecosystem can be _____ to the balance of the ecosystem.
3. Harmful substances released into the environment are called _____.
4. Harmful gases released from factories can pollute the _____.
5. Living things that are in danger of becoming extinct are classified as _____.
6. Volcanoes and forest fires are examples of _____ causes that can upset the balance in an environment.
7. When people cut down forests and dig mines, they destroy the _____ of other organisms.

Skill Challenge

Skills: *classifying, researching*

Use reference materials to identify which organisms listed in the table are classified as endangered species. Write *yes* or *no* in the right-hand column to indicate whether the animal is considered endangered. Then, answer the questions that follow.

RECOGNIZING ENDANGERED SPECIES	
Organism	Endangered?
1. Gorilla	
2. Domestic cat	
3. Giant panda	
4. Black rhinoceros	
5. African elephant	
6. Bengal tiger	
7. Robin	
8. Whooping crane	
9. Cardinal	
10. Black bear	

11. Why are some of the species listed in the table endangered? _____

12. What can be done to help some of these endangered species? _____

CHECKING CONCEPTS

1. Changes in the balance of an environment can be _____ to organisms that live there.
2. A volcano is an example of a _____ disturbance.
3. A species that is in danger of dying out is said to be _____.
4. Disturbances caused by _____ may be permanent.
5. The addition of harmful substances to the environment results in _____.