

Lesson 1

Biodiversity



Focus Question

Why is biodiversity important?

New Vocabulary

extinction

biodiversity

genetic diversity

species diversity

ecosystem diversity

Review Vocabulary

gene: functional unit that controls the expression of inherited traits and is passed from generation to generation

What is Biodiversity?

Genetic Diversity

- The variety of genes or inheritable characteristics that are present in a population comprises its **genetic diversity**.

Species Diversity

- The number of different species and the relative abundance of each in a biological community is called **species diversity**.

Ecosystem Diversity

- The variety of ecosystems present in the biosphere is called **ecosystem diversity**.

The Importance of Biodiversity

Direct Economic Value

- Maintaining biodiversity has a direct economic value to humans.
- Humans depend on plants and animals for food, clothing, energy, and medicine.
- Most of the world's food crops come from just a few species.
- Wild species serve as reservoirs of desirable genetic traits that might be needed to improve commercial crop species.

The Importance of Biodiversity

Indirect Economic Value

A healthy biosphere provides many services to humans:

- Green plants provide oxygen and remove carbon dioxide.
- Natural processes provide drinking water.

The Importance of Biodiversity

Aesthetic and Scientific Values

- Biodiversity and healthy ecosystems have aesthetic and scientific values.
- There is value in maintaining healthy ecosystems that are beautiful or interesting to study.
- It is difficult to assign economic value to these services.