

## Objective

By the end of this lesson, the student will gain a comprehensive understanding of ecosystems, including their components, the relationships between organisms, and the importance of biodiversity. The student will also be able to identify different types of ecosystems and their characteristics.

## Materials and Prep

- Paper and pencils for notes and drawings
- Access to a computer or tablet for research (optional)
- Outdoor space for exploration (backyard, park, or nearby natural area)
- Time to observe and reflect on the environment
- Basic knowledge of plants and animals in the local area

## Activities

- **Ecosystem Exploration:**

Take a walk in your backyard or a nearby park. Observe the plants, animals, and insects around you. Make a list of what you see and try to identify the different species. Take notes on how they interact with each other and their environment.

- **Create Your Own Ecosystem:**

Using paper and pencils, design your own ecosystem. Draw the landscape, include different types of plants and animals, and label how they interact with each other. Think about what would happen if one species was removed from your ecosystem.

- **Food Web Activity:**

Research different animals and plants in your chosen ecosystem. Create a food web diagram showing how energy flows from one organism to another. Use arrows to indicate who eats whom and discuss the importance of each organism in the web.

## Talking Points

- "Ecosystems are communities of living organisms interacting with their environment. Can you think of an example of an ecosystem around you?"
- "Every organism has a role in its ecosystem, which is often called its 'niche.' What do you think your niche would be if you were an animal in your backyard?"
- "Biodiversity is important because it helps ecosystems remain healthy and resilient. Why do you think having a variety of species is beneficial?"
- "Food chains and food webs show how energy is transferred through an ecosystem. Can you explain how a food chain works?"
- "If one species is removed from an ecosystem, it can have a domino effect on other species. What do you think would happen if a key predator disappeared?"
- "Human activities can impact ecosystems in many ways, like pollution or deforestation. What are some ways we can help protect our local ecosystems?"
- "Ecosystems can be fragile, but they can also recover if given the chance. Can you think of a time when you saw nature bounce back after a disturbance?"