

Ecosystem Services - What Does the Earth Provide for Us?

Primary

Key Inquiry Questions

1. What are ecosystem services?
2. Why are ecosystem services important for humans?

Learning Outcomes

1. Students will be reminded of what an ecosystem is and be able to discuss the basics of what ecosystem services are by the end of the lesson.
2. Students will be able to relate their personal lives to ecosystem services by the end of the lesson.
3. Students will understand the 4 different categories of ecosystem services and examples that fall under each category by the end of the lesson.

Sustainability Education Curriculum Goals

Systems Thinking:

1. Our planet - the biosphere - is a complex system that supplies resources and creates conditions that sustain life on Earth.
2. All forms of life, including humans, are connected to each other through man-made and natural ecosystems on which their well-being depends on.
3. Sustainable living relies on the interdependence of viable, healthy social, economic, ecological, and political systems.
 - a. Without a healthy ecological system, human life cannot be supported by the biosphere.

Worldviews and Mental Models:

1. To achieve sustainability, worldviews must recognize the interdependence between living and nonliving things on healthy ecosystems, value diversity in nature and in human perspective, and social justice.

Activities/Goals:

1. Students should be able to explain what sustainability is, the importance of ecosystem services and biodiversity.

Overview

The lesson will begin with an introduction to the basic types of ecosystem services the environment provides that students may not even realize. Students will learn that almost everything they do in a day or have is because of nature/the environment. Students will further examine ecosystem services in their environment by completing an exercise on ecosystem services. This promotes critical thinking and engages their curiosity in thinking about why the environment is so important.

Materials

SolarSPELL Resource:

1. “Ecosystem Services - Wikipedia” (Environment > Teaching Resources > Environment and Sustainability > Ecosystem Services - Wikipedia)

Suggested Procedure

Before beginning the lesson, it is recommended that you review the document titled, “Ecosystem Services” to gain an understanding of ecosystem services.

Before Lesson:

- Take students outside and give them 5 minutes to write down their answers to the following question:
 - What can people do in nature?
 - Possible Answers: walking, running, picking berries, picking flowers, swimming, hide and seek, lying on your back
 - What is nature good for?
 - Possible Answers: clean water, clean air, growing food, making you feel warm, providing materials for you home and the school
 - What does nature mean to you?
 - This is an opinion question, thus, there is no right answer.
- When the 5 minutes are up, call on a few students to share.

During Lesson:

- Ask students to take three huge breaths!!
 - Ask students where the air they breathed comes from?
 - Answer: it comes from nature/the environment
- Next, ask students to point to their favorite piece of clothing they’re wearing that day.
 - Ask students where they think the materials for their clothing come from?
 - Answer: it comes from nature/the environment
- Next, ask students to think of their favorite food.
 - Choose a few students to share by way of raising their hand.
 - Ask students where their favorite foods come from?

- Answer: they come from nature/the environment
- Next, ask students if they recognize a pattern with all of these answers?
 - Answer: everything comes from nature/the environment.
- Bring the students back inside and inform them that each of the things just talked about represents an ecosystem service.
- Write the following definition on the board and ask students to write it down in their notebooks:
 - Ecosystem services are the benefits humans receive from _____.
 - Ask students what they think belongs in the blank (feel free to give them the hint that it has to do with the same pattern they found in the exercise from just before this).
 - Answer: nature!!
 - Reiterate to students that nature provides the opportunity for us to do activities like play hide and seek and swim, but also it provides services like clean air, food, and clean water that we need to live! All of these things that nature provides and does for us are the ecosystem services.

After Lesson:

- Tell students to pick their favorite thing in nature and draw it.
 - This can be a plant, an animal, or even the ocean or a river!
- Have each student draw their favorite animal or plant on a sheet of paper.
- Have each student share what their favorite plant or animal is, and why they like it.
- Divide the students into groups of 4.
- As a group, have students write on the back of their sheets of paper 2 ecosystem services their plant or animal provides (See examples at the bottom of the lesson plan.)
 - Remember, ecosystem services are benefits (good things) that humans have because of nature.
 - Walk around and help students if needed.
 - Examples:
 - Cows - meat and leather
 - Wood - furniture and floors
 - Fruit - jam and juice
 - Trees - shelter from wind and oxygen for breathing
 - Butterfly - beauty and pollen for flower reproduction
 - Ocean - fish for food and a place to swim
 - Fish - food and money for my family
 - Sea Turtles - maintain seagrass habitat and provide food for fish
- After 15 minutes, bring the class back together for everyone to share the ecosystem services their favorite thing in nature provides.

Examples:

