

Learning Experience 3

Introducing the Problem: The Stakeholders

DO NOW

From your experience in EcoMUVE, can you give an example of a species you found? How about a population?

HOOK

Today we will attend a meeting in the local community to learn about a perplexing problem about the Twin Island Park from Ranger Chris. We will also hear from stakeholders at the meeting.

Teacher Prep/Materials

- Laptop cart/computers
- EcoMUVE
- Experience 3 Presentation (Includes Stakeholder Presentation) & Do Now
- Experience 3 - Zero Data Points
- Experience 3 - Team Brainstorming Guide Sheet

Summary

Students will learn about stakeholders and their different perspectives pertaining to the Islands. Students will brainstorm ideas about why fewer people are visiting the park. Students will be divided into teams of four and assigned to a specialist role: public health intern, population specialist, bird watcher and botanist. Each specialist will take on a unique scientific role to help determine what may have caused the visitation to go down.

Understanding and Performance Goals

1. Students will be able to notice, measure, and document changes over time using evidence to support a group hypothesis.
2. Students will brainstorm ideas about why fewer people are visiting the park.

Analyze (10 min.)

Ask students to provide examples of species and populations found in the forest ecosystem.

Review the vocabulary of species and population:

- Species: All of a single kind of animal. If they were in the same location, they could interbreed.
- Population: A group of the same species living in the same area. More specifically, the organisms must be close enough together that they can readily interbreed.

Are the animals on the two different islands part of the same population?

It depends! The islands are close enough together that they have the same general weather patterns and climate, but are far enough apart that it is difficult to swim. Some of the organisms that are strong fliers or swimmers (hawks, deer and wolves) may be able to cross the distance between the two islands, but they are unlikely to do so. For this scenario, we **consider the islands as**

Time

50 minutes

Key Vocabulary

Producer
Consumer
Species
Population
Stakeholders

having different populations.

Ask students to describe what a scientist does. What types of scientists explore ecosystems? (Ecologists, chemists, biologists, etc.)

- What tools might scientists use to study the ecosystem?

Expand (15 min.)

1. Share that Dover and Willis Island are part of a public park system. The Ranger in charge of the park has been noticing some changes and trends over time.
2. Show and review the Stakeholder Presentation explaining the problem on Dover Island: Visitorship is down on Dover Island, but seems to be about the same on Willis Island.
3. Ask students to discuss the meaning of the word “stakeholders.”
 - Stakeholders: When there is a shared resource, stakeholders are the various parties who have an interest in some aspect of a common resource.

In preparation for Team Discussions around the problem, students will spend time exploring in EcoMUVE. It may be helpful to review/introduce these EcoMUVE Tools:

1. Calendar Tool: visit the islands over a span of 45 years in 5 year increments.
2. Population Tool: think about how the populations of organisms might change over time.
3. Travel Between Islands using the Boat: When students click on the boat, they will be transported between Dover and Willis Islands. The boat is always found in the same place on the beach, near the sign and the ranger.
4. Data View Table and Data Graphs: All data collected in the EcoMUVE will be saved in their data table. Saving their file will make the data table available next time students login.

Explore (15 min.)

Students continue exploring the forest ecosystems on the island with the context of trying to solve the problem. Encourage students to use the population tool to collect data as they go. *Note: there are some data points that are zeros. Use the Experience 3 - Zero Data Points document as a reference so that students do not become frustrated looking for organisms that may not be present in that moment.*

Review, Extend, Apply (10 min.)

1. As a class, ask students to share some of the observations of what may be changing over time.
2. Assign students to work in teams of four. In these teams, students discuss what they think may be behind the decline in park visitorship on Dover Island. Each team documents hypotheses on the Experience 3 Team Brainstorming Guide Sheet.

Exit Ticket: What questions do you have for your next trip to the islands? What are you going to look for?

Optional

The Stakeholder presentation is meant to stimulate a discussion going on in a public municipal meeting. To better represent this scenario, you may ask four students to come to the front of the classroom and act out the parts of each of the Stakeholders by reading aloud the information provided in the Experience 3 Presentation file.

You may want to demonstrate these tools to the students using the projector before allowing students to work on their own computers.