

Ecological Restoration

By Puzzling Ecosystems

Summary

Subject(s)

Biology

Grade/Level

Middle School (6-8)

Activity Type

Game/Simulation

Objectives

NGSS: MS-LS2-5

Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

SEP / CCC

SEP for this benchmark:
Engaging in Argument from Evidence

CCC for this benchmark:
Stability and Change

Est. Lesson Time

45 minutes

Implementation

Introduction

In this lesson, students will learn about ecological restoration through the presentation of a slideshow, followed by a jigsaw puzzle game that simulates a real ecosystem. In this activity, students act as “conservationists” - restoring the environment by identifying and removing invasive pieces. They will record changes in a worksheet and compare the activity to real restoration processes in a reflection.

Students will be able to:

- Define ecosystem, abiotic and biotic factors and invasive, native, and non-native species
- Understand how invasive species affect native plant populations and biodiversity
- Evaluate the advantages and disadvantages of multiple solutions to prevent and control invasive species.
- Use kinetic learning, observational skills, and pattern recognition to identify and remove invasive species in a simulated ecosystem

Materials & Resources

- The Savage Fen Puzzle
- [Puzzle Restoration Worksheet](#) (1 per student or group)
- [Ecosystem Restoration Slideshow](#) (include or omit slides as needed)

Procedure

- Slideshow** (10 min): Present the slideshow to the class. Leave the last slide up on the board for students to reference while they do the collaborative puzzle activity.
- Collaborative Puzzle Activity** (20 min): Give the puzzle to the class (or rotating groups) and tell them they have 20 minutes to work together and correctly assemble it. Give each student or group a printout to record their activity as they work.
- Reflection** (10 min): Have students answer the reflection questions on the printout.
- Wrap-up** (5 min): Ask for a few students to share their answers to each question in a class discussion.