



LESSON OBJECTIVE

☛ Demonstrate an understanding of how different environmental problems affect different ecosystems

GRADE

☛ 7

STANDARDS

☛ Social Studies
☛ ELA

TIME REQUIRED

☛ 45-60 min

VOCABULARY

☛ Ecosystem – the interaction of living and non-living components in an environment

MATERIALS

☛ Computers for research
☛ Worksheets (attached)

RECOMMENDED ASSESSMENT

☛ Student worksheets, skits, and drawings

Introduction

This is a fast-paced research and game lesson that is meant to teach students about ecosystems and the environmental concerns that come with each. Students will have to act out environmental concerns such as forest fires, pollution, and coral bleaching while the class tries to gain points by guessing correctly in this trivia night style game.

State Standards

7.3.6: Describe ecosystems of Africa’s deserts, Asia’s mountain regions, and the coral reefs of Australia and use multiple resources to discover environmental concerns that these ecosystems are facing today
7.3.11: Analyze current issues and developments related to the environment in selected countries in Africa, Asia, and the SW Pacific
7.ML.1: Critically analyze information found in electronic, print, and mass media
7.SL.4.1: Present claims and findings

Lesson Plan

Background Knowledge –

Before completing this lesson, students should review the definition of ecosystems and the various types. This lesson does not require an advanced knowledge of ecosystems. This lesson should allow students to connect the experience to several units covered to that point in the school year, particularly topics like climate change and the environment.

Activity –

1. Group matching: Pass out the ecosystem pictures to 7 students. Pass out the ecosystem plant and animal slips so that each remaining student has one. Have students find their group members by matching their ecosystem with the plants and animals that would be found there.
 - a. Desert: cacti, lizards, scorpions, camel
 - b. Marine: kelp forests, sea lions, puffins, whale
 - c. Freshwater: water lilies, frogs, cattails, dragonflies
 - d. Grassland: gazelle, bison, small trees, zebra
 - e. Tundra: wolves, caribou, small shrubs, polar bear
 - f. Deciduous Forest: raccoons, skunks, poison ivy, owl
 - g. Rainforest: bamboo, sloth, lemur, toucan
2. They will be working as a group to research environmental concerns for their ecosystem. Students should spend approximately 10 minutes researching their ecosystem to determine what environmental concerns exist and how people are working on solutions for those concerns. Students must have at least two sources of information for their findings.

3. One student will be the RECORDER and will write down the group's research.
4. One student will be the ARTIST and will be responsible for drawing a picture representing the best solution they have found for the main environmental concern this ecosystem is facing. (For example, students may draw fire-fighters putting out a forest fire or people picking up trash from beaches to help the ocean.)
5. The remaining students will be ACTORS and will have to prepare an interpretive skit showing their solution to the main problem in their ecosystem. No talking will be allowed during the skit!
6. Each group will announce their ecosystem to the class and then perform their skit. Groups will try to guess what the group is acting out and what the environmental concern that is being solved might be by writing their guesses on the slip of paper and submitting them to the recorder of the group presenting (don't forget to put your group's name on the slip too!). Don't blurt out guesses or the other teams could steal your answer! Correct answers get 2 points. Once the skit is done and the first round of guesses have been submitted, the artist can show their picture and a second round of guesses can be made (round two guesses are worth 1 point: think of the picture as a "hint" for the correct answer). If the group got the correct answer on the first round, they don't get an extra point for the second round. The presenting group's recorder will announce who had the correct answers. Each group's recorder will keep track of their team's points.

Closure –

- Why do different ecosystems have different environmental concerns?
- Did any of the solutions surprise you?
- What were some additional solutions that your ecosystem had that you were not able to act out? Are there multiple ways to help an ecosystem?
- Do some concerns that your ecosystem is facing not have a good way to help? Can you think of a better way to fight those types of problems?

Extending the Lesson –

- Have students research the environmental concerns for specific countries studied in class. What do those concerns tell you about what ecosystems are present? Do some countries have multiple ecosystems?
- What ecosystems exist here in Indiana? What are some creative solutions students can come up with to help their ecosystem? Is there anything they can do to help ecosystems they aren't living in?

Resources for Further Learning –

Real World Science has a video describing the main ecosystems:

<https://www.youtube.com/watch?v=iF4TAWmnK2c>

To learn more about the value of ecosystems and how climate change is impacting them, visit the U.S. Climate Resilience Toolkit: <https://toolkit.climate.gov/topics/ecosystems>

Want to learn how the Zoo advocates for wildlife? Visit our website at kidszoo.org.



EnACTING Ecosystems



Group Worksheet

Names: _____

Ecosystem: _____ Climate (hot/cold, wet/dry)? _____

Plants likely to be found: _____

Animals likely to be found: _____

Environmental concerns for this ecosystem: _____

What specific country (or countries) is/are impacted? _____

Why are these concerns? _____

What can be done to help? _____

Sources: _____



MARINE



RAINFOREST



DESERT



FRESHWATER



TUNDRA



GRASSLAND



DECIDUOUS FOREST



Cacti

Frogs

Small Shrubs

Lizards

Cattails

Raccoons

Scorpions

Gazelle

Skunks

Kelp Forests

Bison

Poison Ivy

Sea Lions

Small Trees

Bamboo

Puffins

Wolves

Sloth

Water Lilies

Caribou

Lemur

Extras (if more than 28 students):

Camel

Great Horned Owl

Toucan

Whale

Zebra

Dragonflies

Polar Bear



EnACTING Ecosystems



Cut these out and have the students use them to submit their guesses without talking out loud.

Group Name: Group Presenting: Round 1 Guess:	Group Name: Group Presenting: Round 2 Guess:
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