

RESOURCE LIBRARY | ACTIVITY : 1 HR 15 MINS

Promoting Actions to Prevent Extinction

Students research organizations that are working to preserve species or the environment and the types of actions that these groups take. Then, students develop research-based action steps critical to protecting a certain species.

GRADES

6, 7, 8

SUBJECTS

Biology, Ecology, Earth Science, Climatology, Geology, Oceanography, Geography, Social Studies

CONTENTS

2 PDFs, 1 Link

OVERVIEW

Students research organizations that are working to preserve species or the environment and the types of actions that these groups take. Then, students develop research-based action steps critical to protecting a certain species.

For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/promoting-actions-prevent-extinction/>

DIRECTIONS

From Pandas to Polar Bears: Hope for Earth's Imperiled Species Unit* Driving Question: *How can we, as planetary stewards, take an active role in saving species from extinction?

Drivers of Extinction* Lesson Driving Question: *Why is it important to prevent species extinction?

1. Ask students to brainstorm examples of ways that people take action to protect the environment.

- Project the key image or another image of people taking action to protect the environment. As a class, brainstorm ways that individuals take action to protect the environment.
- Have student teams discuss the following:
 - *Which of these actions might benefit your focal species?*
 - *Would these actions on their own be enough to save your focal species and their biome?*

2. Engage students in a guided reading of an article to build a strong case for conservation advocacy.

- Provide students with access to [Half of All Land Must Be Kept in a Natural State to Protect Earth](#), and read it aloud.
- As you read, stop frequently and ask students to identify examples of how citizens and organizations work together to act as environmental advocates.
- Lead a discussion to address the following questions:
 - *Why does this article suggest that global leaders should care about protecting the land outside of their own countries?*
 - *What kinds of things can happen over time if action is or is not taken toward climate stabilization?*
 - *What are some local and global actions that the article suggests?*
 - *What are the different roles that people can have in taking those actions?*
 - *What are some of the challenges and opportunities involved in taking those actions?*

3. Engage students in further investigation into organizations that act as environmental advocates.

- Provide teams with the [Planetary Heroes](#) handout, so they may take a deeper dive into one of the organizations listed and identify action steps organizations are taking to protect the Earth.

- Instruct each member within the research team to select and read about a different organization.
- Upon completion of their reading, each student creates a Planetary Hero trading card on a 3×5 index card or cardstock that identifies the organization, its logo, its mission, and 2-3 examples of how it advocates for the environment or specific species.

4. Have student research teams discuss their findings and develop research-based action steps critical to preventing extinction for their focal species.

- Prompt students to share their trading cards with their research teammates, highlighting the types of actions their selected organization takes to prevent extinction.
- Ask teams to review what they have learned so far in the unit about the risks facing their focal species. Have students identify the most critical risks and match those risks to specific actions that can be taken and record their thinking in Step 4 of *Investigating an Endangered Species and its Biome*.
- Prompt teams to collaborate to develop a group response for the unit's driving question: *How can we, as planetary stewards, take an active role in saving species from extinction?*
 - Invite teams to share their actions and identify actions they have in common with other groups.
- Return students' attention to the whole-class generated *Know and Need to Know* chart from the *Endangered Species and Their Biomes* activity. Review the list with the class; strike questions that have been answered at this point and add information students have shared to the Know column.

Modification

Step 3: Allow students to trade their cards with other groups to expand the number of actions that can be taken to prevent extinction.

Tip

Step 3: Prior to the activity, create a model of a trading card.

Tip

Step 3: Preview the organizations and support students in selecting organizations that are related to protecting the biome that students are focused on.

Informal Assessment

Investigating an Endangered Species and its Biome: Monitor students' responses to Step 4 for accuracy or to redirect research if necessary.

OBJECTIVES

Subjects & Disciplines

Biology

- Ecology

Earth Science

- Climatology
- Geology
- Oceanography

Geography

Social Studies

Learning Objectives

Students will:

- Evaluate potential human-based solutions to prevent the extinction of their focal species.
- Collaborate with group members to expand their understanding and make suggestions to prevent species extinction.

Teaching Approach

- Project-based learning

Teaching Methods

- Brainstorming
- Research
- Self-directed learning

Skills Summary

This activity targets the following skills:

- 21st Century Student Outcomes
 - Information, Media, and Technology Skills
 - Information Literacy
 - Information, Communications, and Technology Literacy
 - Media Literacy
 - Learning and Innovation Skills
 - Communication and Collaboration
 - Creativity and Innovation
 - Critical Thinking and Problem Solving
 - Life and Career Skills
 - Initiative and Self-Direction
 - Leadership and Responsibility
 - Productivity and Accountability
- 21st Century Themes
 - Civic Literacy
 - Environmental Literacy
 - Global Awareness
- Critical Thinking Skills
 - Analyzing
 - Applying
 - Evaluating
 - Remembering
 - Understanding
- Geographic Skills
 - Acquiring Geographic Information
 - Analyzing Geographic Information
 - Answering Geographic Questions
 - Organizing Geographic Information

National Standards, Principles, and Practices

COMMON CORE STATE STANDARDS FOR ENGLISH LANGUAGE ARTS & LITERACY

- CCSS.ELA-LITERACY.SL.7.1:

Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on Grade 7 topics, texts, and issues, building on others’ ideas and expressing their own clearly.

- CCSS.ELA-LITERACY.WHST.6-8.9:

Draw evidence from informational texts to support analysis, reflection, and research.

THE COLLEGE, CAREER & CIVIC LIFE (C3) FRAMEWORK FOR SOCIAL STUDIES STATE STANDARDS

- D4.6.6-8:

Draw on multiple disciplinary lenses to analyze how a specific problem can manifest itself at local, regional, and global levels over time, identifying its characteristics and causes, and the challenges and opportunities faced by those trying to address the problem.

Preparation

What You’ll Need

MATERIALS YOU PROVIDE

- Chart paper
- Index cards

REQUIRED TECHNOLOGY

- Internet Access: Required
- Tech Setup: 1 computer per learner, Monitor/screen, Projector, Speakers

PHYSICAL SPACE

- Classroom

GROUPING

- Heterogeneous grouping
- Large-group instruction
- Small-group learning
- Small-group work

BACKGROUND & VOCABULARY

Background Information

There are several organizations that are dedicated to preventing extinction. These organizations work in different ways. They engage the science, collecting data, and making the scientific case for action. They work to raise public awareness of endangered animals through a variety of methods, including producing photos and videos and using social media. They also lobby governments to create policies that prevent extinction. While organizations may have a particular lens on how they take action, they are all focused on protecting the environment and preventing extinction.

Prior Knowledge

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Recommended Prior Activities

- None

Vocabulary

Term	Part of Speech	Definition
apex predator	<i>noun</i>	species at the top of the food chain, with no predators of its own. Also called an alpha predator or top predator.
bottom-up trophic cascade	<i>noun</i>	ecological phenomenon in which a producer or primary consumer is removed from the environment.
consumer	<i>noun</i>	organism on the food chain that depends on autotrophs (producers) or other consumers for food, nutrition, and energy.

Term	Part of Speech	Definition
decomposer	<i>noun</i>	organism that breaks down dead organic material.
food chain	<i>noun</i>	group of organisms linked in order of the food they eat, from producers to consumers, and from prey, predators, scavengers, and decomposers.
keystone species	<i>noun</i>	organism that has a major influence on the way its ecosystem works.
predator	<i>noun</i>	animal that hunts other animals for food.
prey	<i>noun</i>	animal that is hunted and eaten by other animals.
producer	<i>noun</i>	organism on the food chain that can produce its own energy and nutrients. Also called an autotroph.
scavenger	<i>noun</i>	organism that eats dead or rotting biomass, such as animal flesh or plant material.
top-down trophic cascade	<i>noun</i>	ecological phenomenon in which a top predator is removed from the environment.
trophic cascade	<i>noun</i>	ecological phenomenon triggered by the addition or removal of predators from an environment.

For Further Exploration

Articles & Profiles

- [Wildlands Network: Keystone Species and Trophic Cascades](#)
- [National Geographic: Is the Gray Wolf Still Endangered? Depends on Who You Ask.](#)
- [Yellowstone Park: Wolf Reintroduction Changes Ecosystem in Yellowstone](#)

Instructional Content

- [National Geographic: Introduction to Keystone Species](#)

Websites

- [National Geographic: Food Chains and Webs Collection](#)



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