

RESOURCE LIBRARY

ACTIVITY : 1 HR 40 MINS

Challenges Faced by Endangered Species

As the first step in the *Extinction Stinks!* unit project, students work in small groups to research a target species and develop a plan to protect its survival. Using a research handout and web resources, students identify major challenges faced by their target endangered species by researching its life history and ecosystem relationships.

GRADES

6 - 8

SUBJECTS*Biology, Ecology, Conservation***CONTENTS**

14 Links, 2 Videos, 1 PDF

OVERVIEW

As the first step in the *Extinction Stinks!* unit project, students work in small groups to research a target species and develop a plan to protect its survival. Using a research handout and web resources, students identify major challenges faced by their target endangered species by researching its life history and ecosystem relationships.

For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/challenges-faced-endangered-species/>

In collaboration with



DIRECTIONS

This activity is part of the Extinction Stinks! unit.

1. Introduce the term “conservation” to prepare students to begin planning their conservation plans for their target species.

- Ask: *What does the word “conservation” mean to you?* Possible responses include:
 - Using resources sparingly
 - Promoting environmental initiatives
 - Reducing hunting or fishing in an area
- Show the video Definitions in the Field: Conservation (0:43).
 - Ask students to reflect on the definition National Geographic Explorer Mateus Mutemba provides: “the careful use of resources...so that the things we need to survive will be around for the future.”
 - Ask: *How is conservation connected to helping endangered species?* Possible responses include:
 - Reducing threats to endangered species and conserving their populations increases biodiversity.
 - Protecting the habitats of endangered species preserves the ecosystem services provided by that area.
 - Conserving resources allows for their use by endangered species.
 - Explain that students will be creating a solution to protect their target species that embodies conservation: the careful use of resources to allow for their target species, other species, and local humans to access what they need from their environment.

2. Guide students in collaborating in their project groups to research their species.

- Share students’ project group and species assignments for the Extinction Stinks! unit project. Explain that students will gather necessary information about their target species and its ecosystem, which will be used to design a strategy to protect their species.
- Ask students to refer back to the class *Know & Need to Know* chart for the driving question. Based on what they have learned about the Sumatran rhino and the conservation efforts to prevent its extinction, ask students to identify what they believe they need to know before designing a solution specific to their assigned species. Some examples might include:

- The species' food web
 - Where the species lives and its habitat
 - What other organisms share their ecosystem
 - How humans use the species' ecosystem
- Distribute the *Species Research* handout to students.
 - Review the sections of the handout to ensure that students understand their task for each section.
 - Explain that two articles and one video will be provided to each group (links are included on the handout), but that they can use other web resources to add to their understanding.
 - Provide students with ample time to explore those resources and keep track of their research on their *Species Research* handout.

3. Assess students' understanding with an exit ticket.

- Before students leave, have them record their answers to the four questions below to assess their current understanding of their target species. Prompt students to note any questions they currently cannot answer so that they can return to them in their subsequent project work.
 - *What would you identify as the top one to three threats to your species' survival?*
 - *What is the relationship between your species and human activity?*
 - *What are three other organisms that interact significantly with your species?*
 - *What is one solution that you think would help your target species?*

Tip

Step 2: Guiding students toward reliable resources can be a complex task that requires training and repetition. Read more about strong strategies for teaching students how to evaluate information they encounter on the internet, including lesson plans to use with your students, in [this article](#) from Edutopia.

Tip

Step 2: Student groups may need help delegating tasks to begin research. Suggest having students write their name near the section they will complete first, or pair students in larger groups to identify information together. Many news organizations require finding reliable information from multiple sources, so you might ask students to cite at least two sources for each piece of information.

Informal Assessment

Use students' exit tickets to evaluate the depth and thoroughness of their research at this point in the project. Some students may need help navigating the resources to ensure that they get all necessary information, while others may want to deepen their understanding with further research.

Extending the Learning

Have students identify an organization already working to support their target species. If time is available, have students email an expert for more information about their species and how best to support its survival. They may need guidance on how to write a clear, respectful, and direct email.

OBJECTIVES

Subjects & Disciplines

Biology

- Ecology
- Conservation

Learning Objectives

Students will:

- Learn the life history of a target species.
- Explain major threats to a target species that have led to it becoming threatened.
- Identify the relationships the target species has with other living things in its ecosystem and the ecosystem services provided by that ecosystem.

Teaching Approach

- Project-based learning

Teaching Methods

- Cooperative learning
- Information organization
- Research

Skills Summary

This activity targets the following skills:

- 21st Century Student Outcomes
 - Information, Media, and Technology Skills
 - Information, Communications, and Technology Literacy
 - Media Literacy
- 21st Century Themes
 - Environmental Literacy
 - Global Awareness
- Geographic Skills
 - Acquiring Geographic Information
- Science and Engineering Practices
 - Obtaining, evaluating, and communicating information

National Standards, Principles, and Practices

COMMON CORE STATE STANDARDS FOR ENGLISH LANGUAGE ARTS & LITERACY

• CCSS.ELA-LITERACY.WHST.6-8.7:

Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

NEXT GENERATION SCIENCE STANDARDS

- **Crosscutting Concept 2:**

Cause and Effect

- **Disciplinary Core Ideas LS2.A: Interdependent Relationships in Ecosystems:**

- **MS. Ecosystems: Interactions, Energy, and Dynamics:**

MS-LS2-4. Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

- **MS-LS2: Ecosystems: Interactions, Energy, and Dynamics:**

MS-LS2-1: Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem

- **Science and Engineering Practice 8:**

Obtaining, evaluating, and communicating information.

Preparation

What You'll Need

MATERIALS YOU PROVIDE

- Printed copies of the *Species Research* handout or access to an electronic document that students can directly edit.

REQUIRED TECHNOLOGY

- Internet Access: Required
- Tech Setup: 1 computer per classroom, 1 computer per pair, Projector, Speakers

PHYSICAL SPACE

- Classroom
- Computer lab

SETUP

Before this activity, prepare groups of three to four students using the preferences students listed in the previous activity, *No Species Lives in Isolation.*

GROUPING

- Small-group learning

- Small-group work

BACKGROUND & VOCABULARY

Background Information

One of the reasons it is so challenging to protect the many species that are endangered around the world is that each has their own unique needs and life history. Learning about a species' relationships to other living things in its ecosystem and how humans access the ecosystem services is crucial to creating conservation solutions.

Prior Knowledge

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Recommended Prior Activities

- [Ecosystems Help Everyone—Even Humans!](#)
- [No Species Lives in Isolation](#)
- [SOS—Saving Our Species](#)
- [The Roots of Extinction](#)

Vocabulary

| Term | Part of Speech | Definition |
|--------------------|----------------|--|
| conservation | noun | management of a natural resource to prevent exploitation, destruction, or neglect. |
| endangered species | noun | organism threatened with extinction. |
| extinction | noun | process of complete disappearance of a species from Earth. |
| genetic diversity | noun | difference or variety of units of inheritance (genes) in a species. |
| habitat | noun | environment where an organism lives throughout the year or for shorter periods of time. |
| species range | noun | native, geographic area in which an organism can be found. Range also refers to the geographic distribution of a particular species. |

For Further Exploration

Articles & Profiles

- [PBS: Using humor to protect 'ugly' animals, because they can't all be as cute as pandas](#)

Video

- [National Geographic: Saving the Creeps](#)
- [National Geographic: Freaks and Creeps: Videos](#)



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