

**RESOURCE LIBRARY**  
ACTIVITY : 50 MINS

## Threatened Animals and Their Habitats

Students use National Geographic Photo Ark images of threatened or extinct animals to research the dangers that affect the animals' existence. They use the information to draw the habitats of these animals and investigate links between habitat, ecosystem, and animal livelihood or extinction.

### GRADES

3 - 5

### SUBJECTS

*Biology, Geography, Physical Geography*

### CONTENTS

11 Images

## OVERVIEW

Students use National Geographic Photo Ark images of threatened or extinct animals to research the dangers that affect the animals' existence. They use the information to draw the habitats of these animals and investigate links between habitat, ecosystem, and animal livelihood or extinction.

For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/threatened-animals-and-their-habitats/>

## DIRECTIONS

**1. Generate interests by showing student photographs.**

As students see a series of animal photographs, encourage them to think about what all the animals have in common. Click through the photographs, pausing on each for several seconds. Ask: *What do all these animals have in common?* (Answer: They are all in danger of becoming extinct or they are already extinct.)

Invite a few students to share their ideas, which will likely vary widely. Explain that all of these animals have very few of their species alive in the wild. They are considered threatened—some more seriously than others.

Tell students that they may read or hear that threatened species are considered Vulnerable, Endangered, or Critically Endangered. The terms refer to different levels of their populations in the wild, but all are in danger of extinction.

## **2. Assign students animals and instruct them to draw habitats.**

Tell students they will investigate and then draw a threatened or extinct species' habitat or former habitat. Ask: *What are the main parts of a habitat? What do all animals need to live and thrive?* (Answer: Animals need shelter, water, food, and space in their habitats. NOTE: You may wish to discuss the word *thrive*.) Divide students into small groups. Give each group a printed copy of one of the animal photographs.

Encourage students to research the animals using books and the Internet. After they have found out where their animals live or lived, give them time to create habitat drawings.

## **3. Discuss ecosystems.**

Say: *An ecosystem is a geographic area where plants, animals, and other organisms work together with weather and landscape to form a "bubble" or community of life. All the parts of an ecosystem depend on each other, either directly or indirectly. For example, a change in an ecosystem's temperature affects what plants will grow there. In order to survive, animals that depend on those plants for food and shelter will have to adapt to the changes or move to another ecosystem. For animals to thrive, their ecosystem must be balanced.*

Ask students to use their habitat drawings to identify different types of ecosystems. Ask: *What are some ways you think ecosystems could become unbalanced?* (Answer: The balance can be affected by changes in weather or temperature, introduction of different (non-native or invasive) plants and animals, pollution, human land use, or hunting). If students need help with ideas for this question, ask leading questions to activate background knowledge:

- *How might humans affect an ocean ecosystem?* (pollution, overfishing)
- *How might construction of a new golf course affect a forest ecosystem?* (habitat destruction through human land use)
- *How might hunting lions affect a savanna ecosystem?* (disrupted balance between predator and prey populations)

#### **4. Have students research causes of extinction.**

Students will use their research sources to look for reasons why their animals are in danger. Ask them to consider what changes occurred in the animal's habitat or ecosystem. Encourage them to add to their drawings and include a representation of something that threatened the animals' existence.

#### **5. Assess students through informal presentations.**

Ask each group to share their animal, explain their drawings, and talk about some of the reasons their animal is threatened. Encourage students to ask each other questions. Ask presenters about the relationship between the animal and its ecosystem.

## **Modification English Language Learners (ELL)**

To support ELLs, pre-teach vocabulary, such as extinction, species, habitat, and ecosystem.

## **Modification Teacher Tip**

To modify this activity for visual learners, ask them to present their research solely with images.

## **Tip Teacher Tip**

While each group gives their informal presentation, model active listening and offer thoughtful follow-up questions. Give specific praise when a student engages with presenters in a meaningful way.

## Informal Assessment

As groups informally present their research, assess the connections they made between the animals' threatened status and disruptions to the habitat and ecosystem. Ask follow-up questions to help make this connection explicit.

## Extending the Learning

Have students list ideas for how humans can help keep animals from being threatened. You may wish to have students create posters that promote protecting threatened species.

## OBJECTIVES

## Subjects & Disciplines

**Biology**

**Geography**

- Physical Geography

## Learning Objectives

Students will:

- research using a variety of sources
- make connections between ecosystem disruptions and contributing causes of threatened species
- share research and reflections verbally and through artistic expression

## Teaching Approach

- Learning-for-use

## Teaching Methods

- Cooperative learning
- Research

# Skills Summary

This activity targets the following skills:

- 21st Century Student Outcomes
  - Information, Media, and Technology Skills
    - Media Literacy
  - Learning and Innovation Skills
    - Communication and Collaboration
  - Life and Career Skills
    - Social and Cross-Cultural Skills
- 21st Century Themes
  - Environmental Literacy
- Science and Engineering Practices
  - Obtaining, evaluating, and communicating information

## National Standards, Principles, and Practices

### IRA/NCTE STANDARDS FOR THE ENGLISH LANGUAGE ARTS

- **Standard 11:**

Students participate as knowledgeable, reflective, creative, and critical members of a variety of literacy communities.

### NATIONAL GEOGRAPHY STANDARDS

- **Standard 4:**

The physical and human characteristics of places

- **Standard 8:**

The characteristics and spatial distribution of ecosystems and biomes on Earth's surface;

### NEXT GENERATION SCIENCE STANDARDS

- **3-LS4-4:**

Make a claim about the merit of a solution caused when the environment changes and the types of plants and animals that live there may change.

- **LS2.C: Ecosystem Dynamics, Functioning, and Resilience:**

When the environment changes in ways that affect a place's physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die.

(secondary to 3-LS4-4)

- **LS4.C: Adaptation:**

For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. (3-LS4-3)

- **LS4.D: Biodiversity and Humans:**

Populations live in a variety of habitats, and change in those habitats affects the organisms living there. (3-LS4-4)

## **Preparation**

## **What You'll Need**

### **MATERIALS YOU PROVIDE**

- Assorted art materials
- Grade-level non-fiction texts about habitat, ecosystem, and extinction.

### **REQUIRED TECHNOLOGY**

- Internet Access: Required
- Tech Setup: 1 computer per small group, Printer

### **PHYSICAL SPACE**

- Classroom

### **SETUP**

Ensure the room is set up in a way that is conducive to small-group work. Groups should be able to move with ease between doing computer research and drawing the habitats.

### **GROUPING**

- Heterogeneous grouping

## BACKGROUND & VOCABULARY

### Background Information

A habitat is the place where a plant, animal, or fungus makes its home. An organism's habitat meets all the environmental conditions needed for survival. For an animal, that means resources for finding and gathering food, selecting a mate, and successfully reproducing.

An ecosystem is a community of all living things—and some nonliving things, like weather and landscape—in an area. Everything in an ecosystem is connected. A clear example is a predator-prey relationship. A less obvious example might be optimal water temperature and coral reef survival. All the parts of an ecosystem are either directly or indirectly dependent on each other. A change in an ecosystem, no matter how subtle, causes a ripple effect.

The term threatened is not a specific category. It is an umbrella term the IUCN (International Union for Conservation of Nature) uses to encompass all three of the most concerning levels: Vulnerable, Endangered, and Critically Endangered. A species classified as Vulnerable faces threats in the wild, like loss of habitat and poaching, that may cause it to go extinct. Endangered species populations are in severe decline and are at risk for extinction based on several factors, such as pollution, deforestation, and hunting. Critically Endangered species are those that are almost extinct in the wild. Their numbers have become so few that they may need breeding help from conservationists to keep the entire species viable.

The interaction between animals and their ecosystems is essential for keeping the planet healthy for all of us. But for many species, time is running out. Photo Ark founder and National Geographic photographer Joel Sartore has visited 40 countries in his quest to create this photo archive of global biodiversity. To date, he has completed intimate portraits of more than 6,000 species.

The National Geographic Photo Ark is a project committed to documenting every species in captivity—inspiring people not just to care, but also to help protect these animals for future generations.

## Prior Knowledge

["Students should have prior knowledge of habitats and ecosystems."]

## Recommended Prior Activities

- None

## Vocabulary

Term	Part of Speech	Definition
ecosystem	<i>noun</i>	community and interactions of living and nonliving things in an area.
extinct species	<i>noun</i>	organism that is no longer a part of an ecosystem.
habitat	<i>noun</i>	environment where an organism lives throughout the year or for shorter periods of time.
photography	<i>noun</i>	art and science of producing still or moving images using the chemical reaction of light on a sensitive surface, such as film or an electronic sensor.
predator	<i>noun</i>	animal that hunts other animals for food.
prey	<i>noun</i>	animal that is hunted and eaten by other animals.

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### For Further Exploration

#### Articles & Profiles

- [Joel Sartore, Photographer](#)
- [Photo Ark Latest Updates](#)
- [Photo Ark: capturing endangered wildlife before it's too late](#)

#### Reference



- [Habitats](#)

## **Video**

- [Saving Animals Through Photography - Nat Geo Live](#)

## **Websites**

- [National Geographic: Photo Ark](#)



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