

RESOURCE LIBRARY
ACTIVITY : 30 MINS

Introduction to Captive Breeding

Students discuss endangered and threatened species and learn about captive-breeding programs.

GRADES

9 - 12+

SUBJECTS

Biology, Geography, Human Geography, Physical Geography

CONTENTS

1 Link

OVERVIEW

Students discuss endangered and threatened species and learn about captive-breeding programs.

For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/introduction-captive-breeding/>

DIRECTIONS

1. Discuss students' opinions of zoos.

Ask students to share how they feel about zoos. Ask: *Do you think zoos serve important purposes? Are you opposed to zoos?* Have students explain their answers. Students' opinions may vary widely. Keep the discussion short and tell students you will revisit this question at the end of the activity.

2. Activate students' prior knowledge about endangered and threatened species.

Ask students what endangered or threatened species they know of. Ask: *Why is this species*

in trouble? How can we protect it? Then have students look up tigers, pandas, and great apes on the World Wildlife website to find out the human-induced causes of these particular mammal species becoming endangered, threatened, or extinct. They should find the following information:

- Tigers: poisoned, trapped, snared, shot, and captured by humans
- Pandas: suffering habitat loss due to roads and railroads
- Great Apes: suffering habitat loss due to agriculture, mining, and logging; killed for bushmeat trade

Point out to students that for some critically endangered species, such as Siberian (or Amur) tigers, there are more members in captivity than in the wild—mainly in zoos. Emphasize to students that mammals are not the only threatened or endangered species. If time allows, have students also research examples of endangered bird species, such as the Spix's macaw, or reptile or amphibian species.

3. Introduce the topic of captive breeding.

Explain to students that many zoos, aquariums, and other institutions are involved in captive-breeding programs that try to breed endangered or threatened animals with the following purposes:

- to create a sizable, stable, and healthy population in order to avoid extinction
- to reintroduce species back into their natural habitats, when conditions allow

Invite students to share what they know, if anything, about these programs. Tell students that captive breeding has saved some species from extinction, including black-footed ferrets and California condors.

4. Revisit students' opinions of zoos.

Revisit Step 1 of the activity. Ask students to share how they feel about zoos. Ask: *How has your opinion about the value of zoos changed, if at all? Why?*

Extending the Learning

Have small groups look up more endangered species on the World Wildlife website to find information on human-induced causes of animals becoming threatened or endangered. Ask them to report back to the class.

OBJECTIVES

Subjects & Disciplines

Biology

Geography

- Human Geography
- Physical Geography

Learning Objectives

Students will:

- explain the human-induced causes of species becoming endangered or threatened, leading to extinction
- define vocabulary term

Teaching Approach

- Learning-for-use

Teaching Methods

- Discussions

Skills Summary

This activity targets the following skills:

- Critical Thinking Skills
 - Remembering
- Geographic Skills
 - Asking Geographic Questions

National Standards, Principles, and Practices

NATIONAL GEOGRAPHY STANDARDS

- **Standard 14:**

How human actions modify the physical environment

NATIONAL SCIENCE EDUCATION STANDARDS

- **(9-12) Standard C-4:**

Interdependence of organisms

Preparation

What You'll Need

MATERIALS YOU PROVIDE

- Paper
- Pencils
- Pens

REQUIRED TECHNOLOGY

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

PHYSICAL SPACE

- Classroom

GROUPING

- Large-group instruction

BACKGROUND & VOCABULARY

Background Information

Captive-breeding programs breed endangered species in zoos and other facilities to build a healthy population of the animals. By becoming familiar with the issues surrounding these programs, you can make judgments about whether or not they save species from extinction.

Prior Knowledge

Recommended Prior Activities

- [Captive Breeding and Species Survival](#)
- [Captive Breeding Case Studies](#)

Vocabulary

Term	Part of Speech	Definition
captive breeding	<i>noun</i>	reproduction of rare species controlled by humans in a closed environment, such as a zoo.
endangered species	<i>noun</i>	organism threatened with extinction.
extinct species	<i>noun</i>	organism that is no longer a part of an ecosystem.
genetic diversity	<i>noun</i>	difference or variety of units of inheritance (genes) in a species.
habitat loss	<i>noun</i>	the reduction or destruction of an ecosystem, making it less able to support its native species.
threatened species	<i>noun</i>	organism that may soon become endangered.

For Further Exploration

Websites

- [U.S. Fish & Wildlife Service: Endangered Species Program](#)
- [Smithsonian National Zoological Park: Endangered Species Science](#)
- [Association of Zoos and Aquariums: Species Survival Plan Program](#)



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