

Elephant Conservation

Lesson Objectives & Summary

Objective: Students will examine some of the current threats to elephant populations worldwide and explore some of the present efforts being made towards elephant conservation and protection around the world. Students will consider the effectiveness of these and other conservation efforts, specifically identifying actions that seem to have the most lasting impact on protecting the elephant species. Lastly, students will create infographics that clearly inform others about specific actions that can be taken to protect elephants from extinction.

Summary: *Lesson 1.* Students will briefly discuss why elephants are endangered, and share what efforts they know about through which elephants are being protected today. Students will be challenged to consider how their lives are impacted (directly or indirectly) by the survival of the elephant species (in other words, why should they and others care about elephant conservation?). Students will then watch “[Protecting the African Elephant](#)” (Zambia) and “[Protecting the Asian Elephant](#)” (Thailand). In small groups of 2-3 students, students will serve as groups of “Elephant Conservation Analysts” to investigate different elephant conservation efforts around the world.

Lesson 2. Student groups will discuss the effectiveness of these efforts and note what actions seem to be making the most positive impact. They will share these efforts with the class, as well as brainstorm their own recommendations for the most effective ways to promote elephant conservation.

Lesson 3. Student groups will work together to create an infographic (See <http://piktochart.com>) that can be shared with others to educate others about elephant conservation and protection from extinction.

Standards & Benchmarks

From the Common Core Standards for Speaking & Listening Standards for Literacy in Science and Technical Subjects (Grade 4/5)

- Engage effectively in a range of collaborative discussions with diverse partners, building on one another’s ideas and expressing their own clearly (*Comprehension and Collaboration*)
- Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace (*Presentation of Knowledge and Ideas*)

Grade Level:
Upper Elementary

DURATION:
3-5 Lessons

SUBJECTS:
Science

AUTHOR:
Emily Chan

From the National Science Education Standards, Grades K-4

- All organisms cause changes in the environment where they live. Some of these changes are detrimental to the organism or other organisms, whereas others are beneficial. (*Standard C: Life Science: Organisms and Their Environments*)
- Humans depend on their natural and constructed environments. Humans change environments in ways that can be either beneficial or detrimental for themselves and other organisms. (*Standard C: Life Science: Organisms and Their Environments*)

From the National Science Education Standards, Grades 5-8

- Extinction of a species occurs when the environment changes and the adaptive characteristics of a species are insufficient to allow its survival. (*Standard C: Life Science: Diversity and Adaptations of Organisms*)

Background Information for Educators

For centuries, elephants have fascinated people around the world. These giant land mammals can weigh up to 8 tons (16,000 pounds, or 7,257 kilograms), and are considered to be among the most intelligent creatures in the world.

There are three distinct species of elephants: the African Elephant, the largest land mammals in the world; the Asian Elephant, which is noticeably smaller than its African counterpart; and the African Forest Elephant, which was only recently discovered in the forests of Central Africa. Both male and female African elephants have ivory tusks, whereas only some male Asian elephants have small ivory tusks. Similar to right- and left-handed human beings, elephants are either right- or left-tusked, which is usually determined by which tusk visibly shows the most wear and tear.

Elephants have a unique social structure in which matriarchs (female elephants) lead a group of other females and their baby elephants. Male elephants tend to live in isolation. The gestation period of an elephant is 22-24 months, which is the longest for any mammal on the planet. However, once an elephant is born, it can be 5-10 years before that elephant is weaned from its mother. Therefore, as elephant females are poached for ivory, the survival of infant elephants is also greatly threatened.

Elephants also play a unique (and very necessary) role in the survival of other plant and animal species' in their natural habitat. Many indigenous savannah and forest plants are only able to germinate once seeds are digested and passed through an elephant's digestive tract. Elephants also play a crucial role in clearing dense forest areas to enable the survival of other grazing and browsing animals that share the same ecosystem.

Despite their paramount role in maintaining the equilibrium of their natural habitat, less than half a million elephants are estimated to live in the wild today, and that number is rapidly dwindling due to illegal poaching for ivory and environmental destruction of elephants' natural habitats. Conservationists agree that if drastic measures are not taken to protect and preserve the elephant species, they will be extinct in as little as ten years.

Present conservation efforts include government crackdowns on illegal poaching, habitat preservation, elephant nurseries for orphaned elephants (such as Lilayi Elephant Nursery in Zambia), and research on elephant-human interactions. As scientists gain a greater understanding of elephant behavior, they hope to be able to educate local human populations who can directly influence the protection and preservation of the elephant species.

This video from the David Sheldrick Wildlife Trust shows the present elephant crisis in Africa (Viewer Discretion Advised): <https://vimeo.com/76119923>

The following is another helpful link from the World Wildlife Fund: http://wwf.panda.org/what_we_do/endangered_species/elephants/?src=footer

| Guiding Questions | Key Vocabulary |
|--|--|
| <p>What are the current threats to elephant species' survival?</p> <p>What is presently being done to protect elephants and promote conservation?</p> <p>Why is it necessary to protect these "gentle giants"?</p> <p>What actions are necessary to protect the elephant species from extinction?</p> <p>How does their protection directly and indirectly impact my life?</p> <p>How can I be a proponent of elephant (and other endangered animal) conservation?</p> | <p>Conservation</p> <p>Poaching</p> <p>Predator</p> <p>Habitat</p> <p>Ecosystem</p> <p>Species</p> <p>Subspecies</p> <p>Endangered</p> <p>Extinction</p> |

Lesson Plan # 1

1. Ask students to define the word "endangered." In a one-minute "Brainstorm Blast," have students share aloud what animals they know that are endangered, and create a class list with their ideas. Circle "Elephant" on the list.
2. Ask students to discuss with a partner about why elephants are on the "endangered species" list. What are some of the current threats affecting elephants today? Have students share their thoughts aloud with the class after partner discussions.
3. Challenge students to guess how many years the world will still have elephants if some of these problems continue at their present rate (Answer: as little as ten years).
4. Ask students to consider the impact that the death of one single elephant might have on others (i.e.: impact on its local habitat; if a mother elephant is killed, its infant is not able to survive on its own). Challenge students to then consider how elephant survival impacts their own lives, and why it is necessary to protect elephants.

5. Ask students to define “conservation.” Ask students to list what they know about conservation efforts around the world, specifically with regards to elephants.
6. Have students watch “[Protecting the African Elephant](#)” (Zambia) and “[Protecting the Asian Elephant](#)” (Thailand). Ask students to consider how the threat to each species is a little bit different depending on the geographic location of the species (i.e.: the African elephant is poached for its ivory, whereas in Thailand, Asian elephant populations are threatened more commonly by a loss of habitat due to human destruction).
7. Tell students that they have been invited to be a part of a team of Elephant Conservation Analysts. Each group will investigate different elephant conservation efforts around the world (website list provided below). Students will consider what actions are being taken by each organization and complete the first two columns of the Elephant Conservation Exploration and Analysis Log (pages 8 & 9 of this document).

The following are a few suggested resources:

World Wildlife Foundation

<http://worldwildlife.org/species/elephant>

International Elephant Foundation

<http://www.elephantconservation.org/programs/africa-programs/protecting-elephants-through-conservation-detection-dog-network/>

The National Elephant Center

<http://www.thenationalelephantcenter.org/>

The Elephant Sanctuary (Tennessee, USA)

<http://www.elephants.com/>

Elephant Angels (Hong Kong)

<http://kids.nationalgeographic.com/explore/nature/angels-help-elephants/>

National Geographic for Kids: Partners in Elephant Conservation

http://education.nationalgeographic.com/education/media/partners-elephant-conservation/?ar_a=4

Asian Elephant Conservation Fund

<http://www.fws.gov/international/wildlife-without-borders/asian-elephant-conservation-fund.html>

David Sheldrick Wildlife Fund

http://www.sheldrickwildlifetrust.org/html/elephant_conservation.html

NOTE: Teachers are strongly encouraged to preview and monitor students’ research, particularly as some resources available online that are not endorsed by ProjectExplorer.org may contain graphic poaching images.

Lesson Plan # 2

1. Have student groups revisit their Elephant Conservation Exploration and Analysis Log. Ask one student representative from each group to share some of the actions they have learned about by different elephant conservation groups. List these actions on a class chart.
2. Ask students to think about what it means for something to “be effective” or have a “lasting impact.” Have students think of examples of actions in their everyday lives that may be more effective at addressing a problem, or that have a long-term impact (Examples: telling someone the answer to a problem rather than teaching them how to solve it; giving money one time to an organization versus volunteering at an organization every week; brushing and flossing your teeth right before you go to the dentist, versus the daily habit of brushing and flossing).
3. As a class, have students examine the conservation actions that are being taken as a part of elephant conservation. In small groups, have student discuss which actions seem to have the most lasting impact or be the most effective for protecting the elephant species. Here are a few teacher-guided questions that may help:
 - a. What are some of the positive/negative impacts of continuous human interaction with elephants (i.e.: elephants may become too dependent on humans)?
 - b. Is giving money an effective solution for conservation? Why or why not?
 - c. When is knowledge an effective tool for conservation? How can community education be used as a tool?
4. Challenge students to consider the following questions: What are some of the challenges that elephant conservation groups are facing? Why might present elephant conservation efforts not be as effective?
5. In their Elephant Conservation Analyst groups, have students work together to complete the third column of the graphic organizer to determine the effectiveness of each action that a conservation agency is taking. Remind students that they should be able to support their analysis with evidence and reasonable explanations. Invite groups to share their findings with the class.
6. Challenge student groups to brainstorm their own ideas for effective elephant conservation. Have other groups review one another's ideas for effectiveness and lasting impact.

Lesson Plan # 3

Teacher Note: If technology is not available for student use, students can make infographics on posters instead.

1. Introduce infographics to students. Let them know that an infographic shares very specific information about a topic, using facts, statistics, and images. If necessary, share a few examples of infographics with the class.
2. Model for students how to use <http://piktochart.com> or any other infographic-making tool that you would prefer.

3. Student groups will create an infographic that will educate the community about the plight of elephants and what actions others can take to help support conservation efforts. Remind students that excellent infographics include accurate information about one single topic, are colorful and visually pleasing, use clear spelling, and include images, facts, and diagrams.
4. When students have completed their infographic, have a Gallery Walk display through the classroom for groups to show off their finished products.

Challenge Questions

- What other animals and living organisms are being indirectly affected by elephant endangerment?
- How can you raise awareness of the severity of the “elephant problem” worldwide?

Assessment / Evidence of Understanding

- Students can identify some of the major aspects of elephant conservation in action today.
- Students are able to evaluate the effectiveness of these aspects of elephant conservation using specific evidence.
- Students accurately communicate their understanding of which elephant conservation actions are most effective through the creation of an accurate, visually-pleasing infographic.

***** Assessment Rubric & Analysis Log follow on next pages *****

| Assessment Rubric | Below Expectations | Meets Expectations | Exceeds Expectations |
|---|---|--|--|
| Elephant Conservation Exploration & Analysis Log | Student log may be only partially complete; listed actions that are vague and general (i.e.: cares for elephant); effectiveness evaluations are vague or do not give clear reasons as to why that rating was given. | Student log is complete; listed actions are clear and specific (i.e.: feeds baby elephants 3 times daily) and reflect an understanding of how humans can play a role in both endangering and preserving elephants; effectiveness evaluations include clear reasons for why a certain rating was given. | Student log is complete; listed actions are not only clear and specific, but reflect that student has made inferences about certain actions to reflect an understanding of how such actions promote conservation; effectiveness evaluations give clear rationales for why a certain rating was given, but also reflect an awareness of other possible factors that may affect the overall conservation efforts (i.e.: educating communities about elephants helps them understand that elephants are in danger, but may take a while to train people to be able to protect elephants from poachers, and it is also dangerous). |
| Infographic Creation | Infographic may be missing some of the following elements (color, organization, accurate facts, specific actions, correct spelling and grammar), or may try to communicate too many ideas with very vague statements (i.e.: "Save the elephants! Stop killing them!") | Infographic is colorful, organized, includes accurate facts and specific actions that others can take to be a part of elephant conservation; spelling and grammar is mostly correct; final product is reflective of grade-level expectations. Content should be specific and clearly address ways that others can help in elephant conservation efforts (i.e.: "You can help save elephants by signing these government petitions to ban the sale of ivory.") | Infographics is colorful, visually pleasing, well organized, includes accurate facts and specific, effective actions for elephant conservation; All spelling and grammar is correct; Excellent product overall that exceeds grade-level expectations. Content is reflective of higher-level thinking and may also include counter-arguments (i.e.: "Did you know that humans can both help and hurt elephants? Here is how...") |



Elephant Conservation Exploration & Analysis Log

Directions: As you research different elephant conservation efforts, write the organization's name. Then, list the actions that are taking place there (be specific). When directed by your teacher, complete the last column and include your reasons to support your analysis.

Effectiveness Rating: 1 = Not Effective 2 = Limited Effectiveness or Short-Term
3 = Effective, but with some challenges 4 = Very Effective & Impactful for Long-Term

| Organization | Conservation Actions | Effectiveness Rating & Reasons |
|----------------------|--|--|
| Patara Elephant Farm | Breeding and caring for baby elephants Educating visitors about how to care for elephants Elephants are cared for in protected habitat | Rating: 3 +Excellent way to teach people about elephants, their life cycle, and their needs +Elephants are protected from predators and live in their natural habitat - Elephants are domesticated and depend on human care |
| | | |

| Organization | Conservation Actions | Effectiveness Rating & Reasons |
|--------------|----------------------|-----------------------------------|
| | | |
| | | |