

When Giants Disappear

Elephant Conservation

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Grade Level	9th – 12th Grade	**Time Frame**	155 minutes
Subject	Science	**Duration**	3-4 periods
Course	Biology, Environmental Science		

Essential Question

How do human actions impact elephant populations, and why does the protection of elephants matter for the health of entire ecosystems?

Summary

In this lesson, students explore the ecological importance of African and Asian elephants and the threats leading to their population decline. Using graphs and articles, they analyze real-world data and engage in creative expression to build understanding and empathy. Students collaborate to design a realistic conservation solution and present it in a persuasive video pitch. The lesson culminates in a performance-based reflection that blends scientific knowledge with perspective and empowerment.

Snapshot

Engage

Students analyze a powerful image of mourning elephants and express their interpretations through group gestures using the Still Picture strategy.

Explore

Students investigate the current status and ecological importance of African or Asian elephants using the Deep Reading and WIS-WIM strategies.

Explain

Students create and present vibrant Mind Maps that illustrate elephant roles in ecosystems and the impact of their extinction.

Extend

Students design a research-based solution to a major elephant threat and deliver a persuasive 3–4 minute activist vlog to inspire action.

Evaluate

Students perform a choreographed still picture and cadence that symbolizes their learning, followed by a personally reflective exit ticket.

Standards

ACT College and Career Readiness Standards - Science (6-12)

IOD505: Analyze presented information when given new, simple information
SIN503: Determine the experimental conditions that would produce specified results
EMI502: Determine whether presented information, or new information, supports or contradicts a simple hypothesis or conclusion, and why

Oklahoma Academic Standards (Environmental Science)

EN.LS2.6 : Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.
EN.LS2.7 : Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.*

Oklahoma Academic Standards for Science (Grades 9, 10, 11, 12)

B.LS4.5: Evaluate the evidence supporting claims that changes in environmental conditions may result in (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species.

Attachments

- ACT Writing Prompt—When Giants Disappear.docx
- ACT Writing Prompt—When Giants Disappear.pdf
- Elephant Conservation Project Rubric—When Giants Disappear.docx
- Elephant Conservation Project Rubric—When Giants Disappear.pdf
- Elephant Conservation Project—When Giants Disappear.docx
- Elephant Conservation Project—When Giants Disappear.pdf
- Elephant Exploration Stations—When Giants Disappear.docx
- Elephant Exploration Stations—When Giants Disappear.pdf
- Elephant Mourning—When Giants Disappear.pdf
- Exit Ticket—When Giants Disappear.docx
- Exit Ticket—When Giants Disappear.pdf
- Exploration Stations Instructions—When Giants Disappear.docx
- Exploration Stations Instructions—When Giants Disappear.pdf
- Lesson Slides—When Giants Disappear.pptx
- Video Critique—When Giants Disappear.docx
- Video Critique—When Giants Disappear.pdf

Materials

- Lesson Slides (attached)
- Elephant Mourning image (attached and in slides; print one-sided, one per group)
- Exploration Stations Instructions (attached)
- Elephant Exploration Stations handout (attached; one per student)
- Elephant Conservation Project handout (attached; one per student)
- Elephant Conservation Project Rubric (attached; one per student)
- Video Critique handout (attached; one per student)
- Exit Ticket handout (attached; one per student)
- ACT Writing Prompt (optional; attached; one per student)
- The Status of African Elephants (linked; one per student)
- The Status of Asian Elephants (linked; one per student)
- Why Do People Buy Elephant Ivory? (linked; one per student)
- Elephants as Ecosystem Engineers (linked; one per student)
- National Geographic African Elephant Reading (linked; one per student)
- National Geographic Asian Elephant Reading (linked; one per student)
- African Elephant: Strong, Smart, but Vulnerable (optional; linked; one per student)

- Asian Elephants: Intelligent and Sociable, but Endangered (optional; linked; one per student)
- African Elephant Graph (linked; one per station)
- Asian Elephant Graph (linked; one per station)
- Large poster paper
- Markers and colored pencils

15 minutes

Engage

Use the attached **Lesson Slides** and introduce the lesson by showing **slide 2**. Move through **slide 3–4** and go over the learning objectives and the essential question.

Move to **slide 5** and introduce students to the instructional strategy Still Pictures. Explain to students that this is a three-part strategy. Divide the students into groups of 3–4. Pass out the **Elephant Mourning** image but do not reveal the title of the picture yet. Explain to students that as a group they will agree upon a unified gesture that represents their interpretation of the image. Display **slide 6**. Start the *2 minute timer* on the slide and allow the groups that time to analyze and discuss the image. Be sure to visit each group to ensure appropriateness of their chosen gestures. After the timer ends, call out each group to present their unified gesture and have one spokesperson from each group explain their gesture.

After each group has presented and explained their gesture, student groups will choose one of the provided articles to read about the status of elephants:

- The Status of African Elephants
- The Status of Asian Elephants

Explain to students that they will repeat the Still Pictures gestures to represent the interpretation of the reading, however, this time they will be creating an individual gesture. Using the *4 minute timer* on **slide 7**, give the students those 4 minutes to read and discuss with one another in each group. They should also discuss the gesture they are planning to use and how it relates to the reading.

Teacher's Note: Productive Struggle

The students may ask, “What is poaching?” or “What is ivory?” It’s important that the teacher takes a step back and allows the students to figure this out on their own. If they ask if they can use their computers to look it up, allow them to do so. You have now piqued their curiosity, so don’t discourage the research. Allow them to use books or technology to answer these questions. What’s important is that you don’t give them the answer. Just remind them that they only have 4 minutes!

Transition to **slide 8**. After students finished reading, start the *2 minute timer* and have students explain to their group their individual gesture and determine the speaker. When the 2 minutes are up, student groups will take turns freezing in their individual gestures. After a group has finished, one student from that group will explain the individual gestures of their group and the interpretation. When the students are finished performing, inform the students that the reading passages that were given were written in the winter of 2018. Ask them to predict whether or not the numbers have improved or worsened over the years. Explain that they will explore information about the elephant type that they just read about.

40 minutes

Explore

Move to **slide 9**. Pass out the **Elephant Exploration Stations** handout to each student. Explain that they will be getting more information about the elephants they have already read about. Explain that there are three stations with instructions at each station. They will work as a group and fill out the information for each station in the corresponding section on their handout. At the end of each station activity students are asked to write down something they are wondering about based on the activity they did.

Station 1: Deep Read

Students will be given a selection of articles to read. Students will decide which strategy to use while reading: Whole Group, Partner Read, Solo Read, or Divide and Conquer. As students read they will create a short 2–3 word hashtag summary about each paragraph or section. Students will share their summaries with their group and attach the article to their handout.

Station 2: Mini Research

Students will do research about their specific elephant and its role in the ecosystem. They will record their responses on their handout. To ensure focus, each student should select one species of elephant, either the African elephant or the Asian elephant, as the subject of their research.

- Students who select African elephants will be given the *National Geographic African Elephant Reading.*
- Students who select Asian elephants will be given the *National Geographic Asian Elephant Reading.*
- All students, regardless of their choice, should also read *Why Do People Buy Elephant Ivory?* and *Elephants as Ecosystem Engineers.*

Teacher's Note: National Geographic Access

Currently, The National Geographic readings require you to submit your email to gain access to the articles. This is the only action that is required as of right now, and there is no payment. If you would rather not include your email address, consider using these articles in their place: African Elephant: Strong, Smart, but Vulnerable & Asian Elephants: Intelligent and Sociable, but Endangered.

Station 3: Data Analysis

Students will analyze a graph about their chosen elephant. Students will use the WIS-WIM strategy, to describe patterns, trends, or changes in the graphs and discuss their interpretations. Once they have done that, they will create a 2-sentence summary of the information the graph is showing. Provide the students with access to the two graphs, they will choose the one that relates to the elephant they have read about: African Elephant Graph & Asian Elephant Graph.

Once students have been to all three Exploration Stations, they should return to their seats with their group. Briefly discuss students' wonderings as a whole group to help jumpstart and solidify their research question. Move to **slide 10**. Together they will develop a research question about elephant conservation. Then, they will select at least one piece of evidence from the required resources and as a group they will find three additional resources they will be using to answer their research question. This would be a great time to introduce or review what is considered an "acceptable" and/or a scientific resource. Encourage the students to use .org, .gov, or .edu resources.

45 minutes

Explain

Move to **slide 11** and introduce the Inside Out instructional strategy. Provide each group with a piece of large poster paper, markers, and colored pencils. Students will recreate the three circles of the inside out graphic organizer onto their poster. Use **slides 12–14** to scaffold the labeling of the circles. Students should label the innermost circle as “Elephant Ecological Role,” the middle circle as “Impact of Elephant Extinction,” and the outermost circle as “Why does this matter?” If necessary, define “ecological role.” Students will use the knowledge they gained while exploring the stations and gathered details about their research question to add information to each of the circles. The information can be in the form of factual evidence with citations, diagrams, or symbols to support their answers. Stress to the students that it is important that every person within their group contributes to the poster.

Allow 30 minutes for completion. Save the remaining 15 minutes for each group to present and explain their posters to the class.

40 minutes

Extend

Optional: Career-Focused Activity

If time allows, show students the Career-Focused video with two Conservation Scientists. Unhide **slide 15** and introduce students to the 3-2-1 instructional strategy. Have them use this strategy to take notes during the video about 3 skills, responsibilities, or tasks used by conservation scientists; 2 things that surprised or interested them; and 1 question they still have.

Unhide **slide 16** and play the video: Conservation Science with Dr. Chase LaDue and Thomas Sharp

Embedded video

https://youtube.com/watch?v=mRJDRNEoFIc

Transition to **slide 17**. Explain to the students that they will be focusing on one major threat facing African or Asian elephants and then design a realistic solution plan including steps that could be taken locally, nationally, or globally. The students may use one to the threats identified during the Explore section.

Teacher's Note: Threats to Elephants

Threats that should have been identified in the Explore section: poaching and the illegal ivory trade; habitat loss due to agriculture, logging, or infrastructure; human-elephant conflict (crop raiding, land disputes); climate change affecting water/food availability; or captivity and animal tourism.

Pass out the **Elephant Conservation Project** to each student and explain to the students that their task is to create a compelling video where you act as a conservation activist trying to persuade the public to take action on a threat impacting elephant survival. This can be framed as a social media campaign, a video letter to the UN, or a persuasive speech for a public awareness event.

Pass out the **Elephant Conservation Project Rubric**. Go over the components of the project with the students and answer any questions. Provide students with time to begin filling out their project handout. Once students have shown you their completed script, they may begin filming their persuasive video.

Teacher's Note: Video Recording

For this project, students should not use personal devices (such as cellphones) while at school to film their PSAs. All recording and editing should be done on school-issued devices to ensure digital safety.

You can collaborate with your school librarian or instructional technologist to help students learn how to check out equipment and navigate the recording or editing platforms. This support ensures that every student, regardless of personal device access, can fully participate in the project.

Examples of devices students could use include:

- Laptops with built-in webcams
- iPads or other school-issued tablets
- Digital cameras or camcorders available through the library or media center

Examples of platforms students could use include:

- iMovie
- Clipchamp
- Canva
- Screencastify
- Microsoft Photos (Windows)
- QuickTime Player (Mac)

Move to **slide 18**. Introduce students to the Glows and Grows strategy. Pass out the **Video Critique** handout. Explain that students will watch other groups' videos and provide feedback using the Elephant Conservation Project Rubric to specify the groups' glows and grows.

30 minutes

Evaluate

Display **slide 19** and use the *10 minute timer* to give the students time to choreograph a 30–60 second performance that summarizes what they've learned about the Elephants, their contribution to the ecosystem, and/or the possible result of extinction. Each member will create an individual gesture and determine a word they want to say to associate with their gesture. Encourage the students to use a different gesture than was used in Part 2.

During the 10 minutes, play either African or Asian instrumental music. This will help create the aesthetic for their artistic group interpretation. Also, allow for the students to collaborate with their groups within different areas of the room. Depending on the space, this may require some students to go into the hallway.

Groups will come up together and stand beside the "stage" area. The music will play continuously during the performance. It will begin with one student walking or dancing onto center stage. When the student reaches that designated spot, they will:

- Perform their gesture
- Say their chosen word
- And then freeze in that gesture

This pattern will continue until all group members are frozen on stage. Once the last member has performed, the group will collectively recite their cadence or motto while still holding their frozen gestures. When finished, they will leave the stage area together, and the next group will step up to perform.

Move to **slide 20** and introduce students to the Exit Ticket strategy. Pass out the **Exit Ticket** handout to each student. Explain that they will be reflecting on their performances and provide them time to answer the question.

Optional ACT Preparation Extension

Use the attached **ACT Writing Prompt** as an evaluation for higher grade levels. The CER strategy works well with writing. It correlates with constructing the body paragraphs (claim(s)) and providing the supporting details or examples (evidence and reasoning).

Resources

- Issuu. (2023). Elephants as ecosystem engineers. https://issuu.com/savetheelephants/docs/elephants_as_ecosystem_engineers_stecoexistencetoo?fr=xKAE9_zU1NQ
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