

Our Endangered World

Lesson Objective & Summary

Objective: After completing these lessons students will be able to understand and communicate information about endangered animals. Students will also be able to identify specific human threats to animal populations and identify the reasons some animals are poached.

Summary: Students will watch episodes on [The Aldabra Tortoise](#), [Walking with Lions](#), [Protecting the African Elephant](#), and [The Orang Utan](#). Following these video episodes, students will research an endangered animal from a provided list. This web-based research will include identifying an animal's predators, endangered status, natural habitat, and what is being done (if anything) to help the species survive.

Following this mini-lesson, students will be presented with a fictitious letter from the Government of Singapore explaining that their hometown is being considered as a future location for an Orang Utan sanctuary. Students will work in groups to research what Orang Utans need to thrive. They will then design a response for the Government of Singapore stating the reasons why / why not their hometown would be an ideal location for a new Orang Utan sanctuary.

Standards & Benchmarks

From the Common Core Standards for English Language Arts

- Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments. (*Reading: Informational Text*)
- Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue. (*Reading: Informational Text*)
- Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led with diverse partners, topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. (*Comprehension and Collaboration*)
- Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks. (*Presentation of Knowledge and Ideas*)
- Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions. (*Science and Technical Subjects*)

Grade Level:
Middle School

DURATION:
2 Lessons

SUBJECTS:
English Language Arts,
Social Studies, Science

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Background Information for Educators

Plant and animal species have been dying out since life on our planet began. While it is impossible to determine exactly how many species have vanished, scientists and historians estimate that nearly 90 percent of the species that have ever lived on Earth have gone extinct.

The rate of extinction has fluctuated throughout history. Of course, the extinction rate drastically grew around 65 million years ago when the dinosaurs died out. Today, the loss of species is estimated to be between 1,000 and 10,000 times higher than the rate of species extinctions that would occur if we humans were not around.

In 1964, the International Union for Conservation of Nature (IUCN) was founded. Today, the IUCN is the world's leading authority on the conservation status of species, and the IUCN Red List of Threatened Species is the world's most comprehensive inventory of the global conservation status of animals.

The IUCN Red List puts species into nine groups. A variety of factors are used to assess a species' conservation status such as rate of decline, population size, and area of geographic distribution. These nine groups include:

Extinct (EX) - No known individuals remaining

Extinct in the Wild (EW) - Known only to survive in captivity

Critically Endangered (CR) - Extremely high risk of extinction in the wild

Endangered (EN) - High risk of extinction in the wild

Vulnerable (VU) - High risk of endangerment in the wild

Near Threatened (NT) - Likely to become endangered in the near future

Least Concern (LC) - Lowest risk

Data Deficient (DD) - Not enough data to make an assessment of its risk of extinction

Not Evaluated (NE) - Has not yet been evaluated against the criteria

When discussing the IUCN Red List the term "threatened" is a grouping of three categories: Critically Endangered, Endangered, and Vulnerable. (source: http://en.wikipedia.org/wiki/IUCN_Red_List)

The reasons for extinction in modern times are varied: e.g. overfishing and overhunting for food purposes, sport killing, poaching, and pollution. Habitat loss, however, is the greatest threat to wildlife. Around the world, non-profit organizations are cooperating with foreign governments to protect our natural world. This is done through the establishment of national parks and sanctuaries. Some organizations are working to breed wild animals in captivity while others work to educate the public.

The Singapore Zoo is one such organization and has bred a long list of endangered animals including the proboscis monkey, the white rhino, the Malayan tapir, and the Orang Utan. The Zoo has swapped many of these animals with other reputable zoos for breeding purposes.

The Singapore Zoo is the first zoo in the world to feature a free-ranging area for Orang Utans. To simulate their natural rainforest environment, the Orang Utan habitat includes multi-tier climbing platforms allowing these arboreal creatures to swing, climb, and play.

Lesson Plan 1A

Materials Needed: Endangered Animal List (provided) and Endangered Animal Research Worksheet (provided)

1. Write the word “Endangered” on the board.
2. Invite students to the board to write their thoughts and/or ideas about the word “endangered” for a “Chalk Talk” activity. (“Chalk Talk” is a hook activity where students write anything they think or know about the word without the context of the lesson. This activity serves as a grabber to hook students in to the topic for the lesson.)
3. Watch the following episodes with the class: [The Aldabra Tortoise](#), [Walking with Lions](#), [Protecting the African Elephant](#), and [The Orang Utan](#).
4. Explain and discuss the first SEVEN categories of the IUCN Red List of Threatened Species (listed in the Background Information section.) For the purposes of this lesson, you need not review the categories “Data Deficient” or “Not Evaluated.”
5. Ask students if they know some of the reasons animals are poached (introduce “poaching” if necessary). Explain to students that wild animals are sometimes killed by poachers for their fur or other valuable parts, like an elephant’s ivory tusks. Other times poachers capture these animals to sell them as pets or animals to a circus.
6. Ask students, “What happens to animals if they are poached often?” (Possible answers: They become endangered. They become extinct.)
7. Distribute the “Endangered Animal List” and each student 5 minutes to choose an animal to individually research.
8. Distribute the “Endangered Animal Research Worksheet” and make sure students understand what they will be doing in order to research and complete their worksheets. *Note: students will need web access to complete their worksheets.*

Key Vocabulary

Extinct
Critically Endangered
Endangered
Vulnerable
Poaching
Sanctuary
Near threatened
Least concern
Predator
Habitat
Species

Lesson Plan 1B

Materials Needed: “Letter” from the Government of Singapore (provided), materials depending on the proposal method students decide on: poster board, markers and other art materials, paper, pens, pencils

1. Watch the following episode with the class: [The Orang Utan](#).
2. Distribute the “Letter” from the Government of Singapore and read aloud while students follow along.

3. Working in groups of 3 or 4 have students design a response presentation to the Government of Singapore. The presentation should clearly illustrate why or why not their hometown is an ideal location for an Orang Utan sanctuary.

The final presentation should address the following:

- An environmental and climate assessment of the students' community
- The natural habitat of an Orang Utan
- Availability of food for an Orang Utan in the students' community
- The diet of an Orang Utan in the wild
- The potential benefits to an Orang Utan
- The potential concerns to an Orang Utan
- The potential benefits to the community
- The potential concerns within the the community

Assessment Rubric	Below Expectations	Meets Expectations	Exceeds Expectations
Contributions to Group Work	Student rarely provides ideas when participating in the group. Might refuse to participate.	Student sometimes provides ideas when participating in the group. A strong group member who tries hard.	Consistently provides useful ideas when participating in the group. A lot of effort is contributed to the group's efforts with definite leadership skills shown.
Participation in Class Discussion	Student lacks participation and enthusiasm and/or contributions detract from class discussions.	Student participates with enthusiasm and contributes to class discussions.	Student regularly participates with enthusiasm and contributes meaningfully to class discussions.
Research Worksheet	Answers on worksheet were incomplete and/or incorrect.	Student completed all questions on the worksheet.	Student completed all questions in a thoughtful manner and with added detail.
Sanctuary Proposal	Proposal is lacking attractiveness, organization, details and/or accuracy of information.	Proposal is attractive and organized, but includes only basic information about how Orang Utans may or may not survive within the student's community.	Proposal is attractive and organized with detailed information about how Orang Utans may or may not survive and thrive within the student's own community.

Endangered Animal List

Northern Cricket Frog

Queen Snake

Golden Eagle

Amur Leopard

Arabian Oryx

Black Rhino

Kakapo

Leatherback Turtle

South China Tiger

Dugong

Blue Whale

Giant Panda

Snow Leopard

Sunda Pangolin

Great White Shark

Jaguar

Red Panda

Forest Elephant

Okapi

Black Spider Monkey

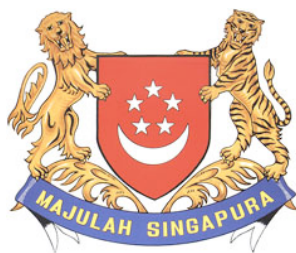
Wyoming Toad

Did you Know? This is only a short list of animals that are under threat.

Endangered Animal Research Worksheet

Name of Animal	
Describe the animal's natural habitat & its geographic location	
Who are the animal's natural predators?	
What are some of the other threats this animal faces in the wild?	
What is your animal's conservation status? (extinct, critically endangered, endangered, vulnerable, near threatened, or least concern)	

On the other side of this paper explain some of the steps being taken to help this animal survive?



Official Request from the Government of Singapore

Dear Local Environmental Experts:

Many endangered Orang Utans living in Borneo and Sumatra are in need of a new home. Their habitats are being destroyed by deforestation, and poachers are kidnapping the babies to sell as pets. We are very proud that our country has protected dozens of these animal by providing a free-range home at the Singapore Zoo.

Unfortunately, our Zoo has run out of room. Singapore is a very small country and we don't have enough land to build another sanctuary.

The Government of Singapore is researching locations to build a new Orang Utan sanctuary. We believe that your community could be a possible home for these endangered animals. We are writing to you to request your help.

Please work with your local environmental group to decide if your hometown would be a suitable location for a new sanctuary. We're interested in learning more about your local trees and climate. We're also interested in the type of diet you would be able to provide the Orang Utans.

Your proposal can be a Powerpoint presentation, a written paper, a brochure, or even a poster. We want to be sure we make an informed decision so that our Orang Utans have the best new home possible.

Thank you for helping us protect the species. We look forward to reading your reply.

Respectfully,

The Government of Singapore