



### Endangered Animals Common Causes

#### Main Points/Rationale

Students will discover the common causes for animals becoming endangered through research and class discussion.

#### Objectives

1. Students will be able to define key vocabulary and apply it to the lesson as they list endangered animals and the common causes of their endangered status.
2. Students will be able to list at least 5 animals that are endangered as they brainstorm together as a class.
3. Students will be able to gather, organize and compile information as they research their assigned endangered animal.
4. Students will be able to list the common causes of why animals are endangered and then categorize these causes into five groups.

#### Standards

PA Standards

1.5 Quality of Writing; 3.3 Biological Sciences; 4.3 Environmental Health; 4.7 Threatened, Endangered and Extinct Species

NJCCCS

3.2 Writing; 5.5 Life Science; 5.10 Environmental Studies

#### Prior Knowledge

- Knowledge of the following vocabulary words: conservation, endangered species, extinct, native species, pesticide, poaching, over grazing, rare species, species and threatened species.

#### Materials & Equipment

- paper, pencils, access to a library, access to computers with Internet
- current list of endangered species (visit the US Fish and Wildlife homepage, select the Endangered Species link, then select 'Listed Species Indexes and Counts' to get to the different categories of animals)

useful websites: Philadelphia Zoo: <http://www.philadelphiazoo.org>, US Fish and Wildlife: <http://www.fws.gov>, <http://educators.fws.gov/educators.html> and <http://educators.fws.gov/students.html>; National Wildlife Federation:



### **Going, Going, Gone**

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<http://www.nwf.org>; International Union for Conservation of Nature and Natural Resources: <http://www.iucnredlist.org/>; PA Department of Environmental Protection: <http://www.dep.state.pa.us/educators> and <http://www.dep.state.pa.us/students/>.

### **Warm-Up - 5-10 minutes**

- Review the vocabulary for this lesson.
- Brainstorm with your students the names of different animals that they think are endangered.
- From this list, choose one or two animals and then brainstorm why those specific animals are endangered.
- Tell the students that the purpose of this lesson will be to research animals that are listed by the government as endangered and discover why they are classified as such..
- Assign each student or teams of students an animal to research. (It is not necessary for each student to be researching a different animal.)

### **Transition**

- The next activity should be completed in a library or a classroom where students will have ready access to the Internet and research materials.
- Present the students with the specifics of what they will need to research in order to complete the project (see sample rubric).

### **Activity One - Research - 45-60 minutes (may extend over several class periods or days)**

- Students should research the reasons why their specific animal is endangered.
- Use the following questions as a guideline:
  - What are the environmental causes or conditions that are leading to the animal's decline?
  - Are these causes man-made or natural?
  - What specifically makes this animal endangered, and not only threatened or protected?
  - Why is this animal protected?
  - What makes it valuable to its habitat?

### **Transition**

- After the students have completed their research, they should compile a short list of common causes for animals becoming endangered.



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**Activity Two - Why are they endangered? - 5-10 minutes**

- If several students were researching the same animal, allow them time to meet in the classroom to compare their information.
- The groups or individual students should come up with a maximum of 5 main reasons why their animal is becoming endangered.

**Transition**

- Categorize all the different reasons the students have discovered. Create a chart on the blackboard, overhead, etc. displaying the following five categories: habitat loss, introduced species, pollution, population growth and overuse.

**Activity Three - HIPPO - 20-25 minutes**

- Compile the list of common causes that the students have discovered. Once completed, show the students the five categories. Discuss what they mean.
- The students' goal will be to categorize the common causes they have discovered underneath one of the five categories.
- After the causes are categorized, go back over the animals that are endangered and decide where they fit. The name of an animal might be repeated based on the number of categories it fits.

**Transition**

- After the students have researched the common causes, they will need to brainstorm possible solutions to these problems.

**Activity Four - Finding a Solution - 5-15 minutes**

- Together as a class or individually have the students brainstorm or research various ways they can help animals and the environment.
- Individually, they can use this as a journal writing opportunity as they explore the different ways in which they can help the environment.
- Some of the websites they used while completing their research may have useful information on how they can get involved.

**Transition**

- Through this lesson, students will discover a lot of information. It is important to tie it all together to their field trip to the Zoo.

**Closing - 2-3 minutes If scheduled for fieldtrip and Zoo Class program:**

- On their class trip to the Zoo, they should keep an eye out for signs that say, "Species in Danger." This signifies an animal that is threatened or endangered.



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- During their lesson, **Going, Going, Gone**, students will learn about animals that fit into the HIPPO category. This Zoo Class will help them learn the material presented in this lesson in a new and challenging way.

**Additional Activities**

- Math Questions
  - In 1963, there were only 25 Arabian oryx in the world. In 1990, there were 3,000. What percent increase is this? (120%)
  - In 1800, there were 30 million American bison in the wild. By 1890, there were only 1,000. What was the average decrease per year in the number of bison? (333,322 bison/year).
  - In 1960, there were 400 breeding pairs of bald eagles in the lower 48 states. By 1995, there were 4,000 pairs. What was the average increase per year in the number of breeding pairs? (103 pairs/year)

**Assessment of Student Performance**

- During this lesson, students will gain new knowledge and then apply their knowledge as they analyze and evaluate the information together as a class or individually.

**References**

Science Daily - 2007 article on Red List Species:

<http://www.sciencedaily.com/releases/2007/09/070912152659.htm>

International Union for Conservation of Nature and Natural Resources:

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

US Fish and Wildlife: <http://www.fws.gov>, <http://educators.fws.gov/educators.html>  
and <http://educators.fws.gov/students.html>;

National Wildlife Federation: <http://www.nwf.org>,

PA Department of Environmental Protection: <http://www.dep.state.pa.us/educators>  
and <http://www.dep.state.pa.us/students/>.