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Science- Endangered and extinct species

Date: January 18, 2007  
Grade Level: 4

**Academic Standards:** Environment and Ecology Standard – Threatened, Endangered and Extinct Species – 4.7.4 – C. Define and understand extinction.

- \* Identify plants and animals that are extinct.
- \* Explain why some plants and animals are extinct.

**Science Assessment Anchors:** S4.B Biological Sciences – S4.B.3 Ecological Behavior and Systems - S4.B.3.2 – Describe, explain, and predict change in natural or human-made systems and the possible effects of those changes on the environment.

**Objectives:**

- Students will be able to define what endangered and extinct species are.
- Students will explain why certain animals are extinct.
- Students will discuss ways to protect animals from becoming extinct.

**Cross-Curricular Integration:** Social studies, reading, writing, speech

**Materials:** Pictures of 3 extinct animals and their habitats (dinosaur, woolly mammoth, golden toad), pictures of 3 endangered animals and their habitats (elephant, bald eagle, giant panda), world map, endangered “Adopt-a-Pets” (common hippopotamus, polar bear, blue poison frog, manta ray, and cheetah) and their birth certificates, background information about each “Adopt-a-Pet”

**Vocabulary:** extinct species, endangered species, threatened species

**Instructional Procedures:**

- Anticipatory Set: Introduce the lesson with questions: What is your favorite animal/species (define the word species) and why? How would you feel if you woke up one morning and that animal didn’t exist anymore? Explain to the students that this can happen and that animals do become extinct.
- Developmental Activities: Write the word “extinct” on the chalkboard. Give the definition of extinct and explain why it occurs (habitat destruction, introduction of exotic species, hunting/poaching, disease, and pollution).
- Give the three examples of extinct animals and explain why they are extinct as the pictures of these animals in their habitats are placed on the board underneath the word “extinct”. (Dinosaurs-asteroids and environmental changes, woolly mammoth-limited food, and the golden toad-climate change) Show where these habitats are located on the map.
- Tell the students that some species are almost extinct and that these are called endangered species. Write the word “endangered” on the chalkboard beside the word “extinct”. Ask for clarification of the word “species”.

- Give the three examples of endangered species (elephants because of hunting, bald eagles from pesticide use, giant pandas from the decline of the habitat). Ask the students why they think these animals are endangered as the endangered animals in their habitats are placed underneath the word “endangered”. They should provide explanations like the ones used above including the fact that certain species have more deaths than births. Show where these habitats are located on the map.
- Explain to the students that there is another group of animals that have to be watched very closely so they don’t become endangered. These are called threatened species.
- Using a concept map, have the students brainstorm ways to protect animals from becoming extinct. Examples: recycle, make space for wildlife (build birdfeeder, compost, don’t use harmful chemicals), plant native plants to the area (control non-native), join an organization, let your voice be heard)
- Have students choose which endangered animal they would like to adopt as a pet. Give the students the birth certificate and background information for the animal that they have adopted.
- Explain to students that they will be writing an article for the school newspaper about their adopted animal. Write key points that need to be made in the article on the chalkboard: name your animal, tell two interesting facts about your animal, tell where your animal lives, tell why your animal is endangered, and tell the reader two things that they can do to help protect your pet’s species.
- Closure: Have students read their articles to the class. Discussion as a class will be used in order to review with students what extinct species and endangered species are, the reasons these animals become extinct (poachers and environmental issues), and what we can do to save these animals.

**Assessment:**

- Confirm that students can correctly define the words “extinct species” and “endangered species” through the use of class discussion and journal writing.
- Assess students’ accuracy of facts through their explanations of why species become extinct by writing in their science journals and reading presenting the entry to the class.

**Extension/Enrichment:**

- Students can visit the following sites to learn more about endangered species.  
<http://www.endangeredspecies.com/>  
<http://nationalzoo.si.edu/Animals/WebCams/>  
<http://www.amnh.org/nationalcenter/Endangered/index.html>

**Special Needs Adaptations:**

- Students can be grouped into pairs so that both students with attention deficit disorder and learning disabilities can have someone to help research and write the journal entry.
- Students with attention deficit disorder and learning disabilities can be involved during the lecturing part of the lesson by writing the vocabulary on the board and putting the habitat and animal pictures on the chalkboard.

## Technology Integration:

1. You have **no computer** in your classroom (but you may have an overhead, TV/VCR/DVD).
  - The students could watch the video entitled *SOS Planet* in order to introduce the concepts of endangered, threatened, and extinct animals.
2. You have **one computer** in your classroom--a **teacher station** online to the Web with large screen projection capability.
  - I would use the computer and projector to show videos of endangered and threatened species to the whole class. These videos from [http://www.panda.org/news\\_facts/multimedia/video/index.cfm](http://www.panda.org/news_facts/multimedia/video/index.cfm) show such animals in their natural habitats.
3. You have a **teacher station** in your classroom online to the Web with large screen projection capability. You also have a **cluster of 6 computers** in your classroom, each computer online to the Web, with a computer-to-student ratio of 1:4.
  - I would use the computers as one of four research stations in the classroom. At different times, each group of students could use the website <http://www.endangeredspecie.com/> in order to research their adopted animal. The other groups would conduct research using books, magazines, encyclopedias, newspapers, etc.
4. You have a **computer lab** reserved for your class once a week with one computer per student, each computer online to the Web.
  - The students will go to the computer lab to research their adopted animal using the website <http://www.endangeredspecie.com/>. They could also use this time at the lab to type their research paper in *Word*.
5. You have a **teacher station** in your classroom online to the Web with large screen projection capability. **Every student also has a laptop computer** for one-to-one computing.
  - Each student could use the website <http://www.endangeredspecie.com/> in order to find information about their animal. Then they could collect and organize this information using *Kidspiration*. The students could even create a short *PowerPoint* presentation to share their findings with the rest of the class.