Anticipatory Set: Bean Activity

Hide beans around the room (start with 50 or 100). Allow students to look for the beans for a set amount of time. Count the number of beans that were found and then send the students to look for the beans again for a set amount of time. Count the beans. Send the students to look once more and count. Each time you counted the beans, the number should have gradually decreased. This can be related to endangered species and how they are decreasing each time they are counted.

Background Information:  
An endangered species is in immediate danger of extinction, or of disappearing from the earth forever. A threatened species will likely become endangered if steps are not taken to protect it. The mountain gorilla is one of thousands of species around the world at risk of becoming extinct and in desperate need of protection. In the United States alone, more than 1,200 wildlife, fish, and plant species are considered threatened or endangered.  
  
While species have evolved and disappeared throughout time, experts warn that today's rate of extinction is alarmingly high. Scientists say that it is natural to lose one species every 100 years. Yet North America has lost more than 500 species since 1620. The National Wildlife Federation, an organization that encourages Americans to protect wildlife, estimates that today nearly twenty plant and animal species around the world are lost every hour.   
  
A habitat is the place where an animal or plant lives that includes essential things for its survival—food, water, shelter, and space. Habitat loss is the main reason a species can become endangered or threatened. Other causes include the over-killing and over-collection of animals and plants for food or trade, the introduction of nonnative plants and animals to environments, pollution, and disease. Humans are changing the air, water, and land faster than species can adapt. When the changes are too severe, they cannot survive.   
  
Why is it important to protect endangered and threatened species? The U.S. Congress answered this question in the Endangered Species Act of 1973, which helps protect threatened and endangered animals and plants. The introduction of the law states that endangered and threatened species "are of esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people." More than 1,200 U.S. species and more than 500 international ones—including Africa's mountain gorilla—are protected under the Act. The Endangered Species Act has been 99 percent effective in preventing the extinction of listed species. The International Union for Conservation of Nature (IUCN) includes thousands more endangered and vulnerable species from around the world and identifies their threats on its annual Red List of Threatened Species.   
  
Plants and animals are part of ecosystems—communities of living things and their environments that interact and are linked together. They are part of the web of life. Losing one species can greatly disturb the balance within an ecosystem and trigger the loss of several other species. According to the U.S. Fish & Wildlife Service, a government agency that works to save America's plant and animal species from extinction, the loss of one plant species can cause the disappearance of up to thirty others. About 40 percent of today's medicines, used to treat illnesses from heart disease to cancer, comes from plants or animals. If the mountain gorillas' habitat in the Virunga Mountains is destroyed, countless other animal and plant life will also lose their home and be at risk of dying out.

**Procedure**  
1. Cut out and distribute to each student one Endangered, Threatened, or Extinct Species Card  from [www.voiceforthewild.org/wildspecies/EndangeredSpeciesHandout-EndangeredSpeciesCards.pdf](http://www.voiceforthewild.org/wildspecies/EndangeredSpeciesHandout-EndangeredSpeciesCards.pdf) .   
  
2. Ask: What is an endangered species? Have students brainstorm a definition. Explain that animals and plants are often classified as endangered, threatened, or extinct. Refer to the background section and write definitions of each term on the board.   
  
3. For examples, have students read aloud their Endangered, Threatened, or Extinct Species Cards. Have students trade cards so they can see several animal pictures. Ask: Do endangered and threatened species live in the United States? (Yes!) Have students list examples, which may include the bald eagle, grizzly bear, manatee, gray wolf, Pacific salmon, and Florida panther.   
  
Ask: Do endangered species live in our community or state? Have students provide examples, and/or direct students to the U.S. Fish & Wildlife Web site for listings: [ecos.fws.gov/tess\_public/StateListing.do?state=all](http://ecos.fws.gov/tess_public/StateListing.do?state=all) . Display pictures of local endangered species.  
  
4. Discuss that the main reason why the mountain gorilla, and many other types of animals and plants, have become endangered is habitat loss—the destruction of, or damage to, the place where they live. Ask students to think about other threats to wildlife. Refer to the background section for additional examples: hunting, the introduction of nonnative plants, pollution, disease, and climate change.  
  
5. Ask: Why is it important to save endangered and threatened species from disappearing? Challenge students to list the many reasons why animals and plants are essential for human life (they provide food; medicine; clean air, water, and soil; recreational activities).   
  
6. Assure students that many efforts to protect endangered and threatened species have been successful. The U.S. Endangered Species Act, a law created in 1973, is one of them. More than 1,200 U.S. species and more than 500 international ones—including Africa's mountain gorilla—are protected under the Act. The Endangered Species Act has been 99 percent effective in encouraging the United States to take the needed actions and work with other nations to prevent the extinction of listed species.  
   
7. Explain that people called conservationists protect endangered animals and plants and the places where they live. Often conservationists must be able to identify animals so they can keep track of them. To illustrate one way people identify endangered animals, download and distribute [Student Activity 2: Know That Nose!](http://www2.scholastic.com/content/collateral_resources/pdf/m/miza_3-5_2.pdf) (PDF). Have students complete the page at home or in class. Review the correct answers in class and begin to discuss what you can do as a class to protect the endangered mountain gorillas.  Answer Key: 1. Kabirizi; 2. Lessenjina; 3. Tunaini; 4. Nivumbi; Challenge: Miza  
  
8. For further reading, direct students to "The Web of Life" story at [www.kidsplanet.org/wol/page\_1.html](http://www.kidsplanet.org/wol/page_1.html) and/or "Why We Care" by Karen Fanning at [www2.scholastic.com/browse/article.jsp?id=10697](http://www2.scholastic.com/browse/article.jsp?id=10697) .