Lesson 11

How are tusks causing the decline in elephant populations?

Grades 4-6

This lesson will introduce students to one of the three major threats to elephants…poaching. Students will discover how technology is being used by conservationists to protect elephants and catch criminals in the act of poaching. This lesson is based on the conservation project 'The Conservation of Elephants in Southern Murchison Falls, Uganda' supported by The International Elephant Foundation.

Subject Area: Science, Reading
Background Information: Pages 11-12
Vocabulary: accelerometer, behavior, GPS, ivory, poaching, tuskers, extinct
Students will be able to:

- Recognize the power of video and blog media to raise awareness and passion about elephant poaching;
- Explain how poaching for ivory tusks affects elephants;
- Identify current technologies employed by conservationists in the field;
- Describe accelerometers as a potential, cutting-edge technology tool to save elephants.

Materials:

- Activity Sheet 30: Elephant Conservation Proposal
- Activity Sheet 31: "Kenya's Biggest Elephants Killed by Poachers" weblog
- Activity Sheet 32: (Extension Only) "Catch a Poacher" Activity

Learning Activities

Preparation

1. The students will work in pairs for this activity. Print off one copy for each pair of the blog "Kenya's Biggest Elephants Killed by Poachers" & "Elephant Conservation Proposal" (included as a separate download on this site).

Procedure

2. Introduce the lesson on elephant poaching by asking the class, What is poaching? *Poaching is the illegal hunting, trapping and fishing of wildlife.* Do you know why elephants are poached? F*or their ivory tusks.* Let's learn more about this topic by first watching a video called "How Much Is Your Face Worth?" After the video, ask students what they though about it. Did it make you think or feel? The video is meant to reach you emotionally and convey why elephants are killed.

3. Now let's read a blog about elephant poaching. Distribute Activity Sheet 31 to each student. Ask them to read the weblog, "Kenya's Biggest Elephants Killed by Poachers" for comprehension (included as a separate download on this site).

4. After students have read and watched the blog and video, lead a discussion on how the human demand for ivory is leading to catastrophic elephant losses in the wild. How many elephants are killed a year? *33,000.* Why are they being killed? *Different cultures use the ivory tusks to carve statues and make decorations. The elephant tusk, made of ivory, is a very valuable substance worth thousands of dollars per pound. Poachers are looking for a quick way to become rich. It is important to note that the United States is the second largest buyer of ivory next to Asia.* Who is doing the poaching? *Criminals, part of organized crime, are being paid to kill elephants and smuggle ivory out of Africa.* What was the purpose of the video and blog? *The purpose is to reach people emotionally about the poaching of elephants. The video and the blog are both meant to raise awareness about the threat to elephants of poaching.*

How are tusk causing the decline in elephant populations?

Which did you think was best at conveying the message? Why? *Encourage the students to give examples to support their opinion.* Does wildlife poaching occur in the United States? *Yes, poaching is the illegal hunting, trapping and fishing of wildlife. Wildlife poaching occurs even here in the United States. Sea turtles, butterflies, deer, crabs, and even bears are all commonly poached in the United States.* After reading the blog, what tools or methods are currently used around the world to combat poaching? *Aerial surveys, GPS collars, and anti-poaching patrols are all currently used as a means of trying to stop elephant poaching in Africa.*

5. Examine how technology is being used to help save elephants. Instruct the students through the power point "Innovative technologies working to save elephants from poaching" (included on this site as a separate download).

Activity

6. Students will construct an Elephant Conservation Proposal to develop a new method/technology to protect elephants in the wild. Encourage students to think outside the box to formulate creative ways to protect elephants.
7. Distribute Activity Sheet 30. Students will develop their proposals by completing the form and then present their final form to the class. A sample proposal is included in this lesson.
8. After every pair has completed their form, lead a summary discussion using the questions below on poaching to encourage the students to critically think about this threat, its causes and solutions.

SUMMARY DISCUSSION

9. Discuss how poaching affects elephants in the wild.
Elephant populations are being drastically reduced by poaching for ivory at a rate of 95 elephants killed a day. If this rate continues, elephants may become extinct.
10. Why should people care if elephants are poached?
Elephants have an inherent value to the countries in which they are found. Not only do they offer a strong economic value in terms of eco-tourism, but they also offer a strong connection to nature and culture in local communities. Elephants are a keystone species and therefore are essential members of their habitats upon which numerous other species of flora and fauna rely. They are beautiful, intelligent, social animals.
11. How are accelerometers, a new technology, being used to save elephants?
Current methods such as aerial surveys, anti-poaching patrols, and GPS collars are all having limited success in stopping poaching in the field. Accelerometers show promise in the near future of diminishing the response time to an elephant in distress. Getting to the scene quicker may help put the criminals in jail and potentially save elephants. Conservationists and researchers are creating innovative technologies as they try to stay one step ahead of the poachers.

Extensions

Students will use the information found in the PowerPoint to write in the correct sequence of the six steps in an accelerometer alarm. Distribute Activity Sheet 32 to each student. Have students complete the activity sheet. After every student has completed the activity sheet, review the correct alarm sequence. *ANSWER KEY: 1. Accelerometer records elephant distress 2. Satellite receives signal 3. Computer triggers alarm 4. Officer receives alert on cellphone 5. GPS data finds elephant 6. Officers catch poachers*
http://www.savetheelephants.org/
http://www.96elephants.org/
http://www.elephantconservation.org/programs/africa-programs/conservation-of-elephants-uganda/

Activity Sheet 30

Elephant Conservation Proposal

Group Members: _____ _____ _____ _____

Overview: _____

_____

_____

_____

Goals: _____

_____

Schedule:

Conservation Impact: _____

_____

_____

Partners: _____

_____

_____

Budget:

Answer Key

Elephant Conservation Proposal

Group Members: John Joe Sally Jane

Overview: African elephants are being poached for their ivory tusks in the wild of Africa. Our group plans to use trained dogs to follow and protect elephants. The dogs will be fitted with cameras and GPS devices. Together the technology and the dogs will alert officers when poachers are chasing the elephants.

Goals: Reduce the poaching threat to African elephants by having a constant presence of technology and trained dogs in the herd's presence.

Schedule:

Discovering suitable elephant herds	June 2014 - July 2014
Training dogs to shepherd and use technology	June 2014 - Sept 2014
Shipping dogs to Africa	Oct 1-10 2014
Training officers to work with dogs	Oct 2014 - Nov 2014
Reviewing effectiveness of project	Feb 2015

Conservation Impact: The trained dogs presence among the herd will deter poachers from assaulting the herd. The combination of technology with the dogs will ensure wildlife officers have a constant view of the elephants. If poachers were to appear, officers could arrive on the scene.

Partners: Our team will work with professional dog trainers in the United States to train the dogs to follow the elephant herds and be comfortable with the technology on their body. We will then work in Africa with local wildlife officers to train them on how to work with the dogs.

Budget:

Purchasing dogs	$2,000
Training dogs	$500
GPS Units	$4,000
Wireless Cameras	$2,000
Roundtrip airfare	$1,800
Lodging in Africa	$1,200
Total	**$11,500**

Lesson 11

How are tusk causing the decline in elephant populations?

Grades 4-6

Activity Sheet 31

KenyanVoice

Posted by
Adila Kwambai
June 1, 2014

Kenya's biggest elephant killed by poachers

It is 4 am and I have been sitting at my computer for hours. I just can't sleep after hearing the terrible news that Satao, the world's biggest elephant, is dead.

Satao lived in Tsavo East National park and was one of the last surviving great tuskers. His huge tusks reached down to the ground. Today, there are very few big tuskers left as a result of the poaching crisis. In May, another of the big tuskers was slaughtered, Mountain Bull, in the forests of Mt. Kenya.

Of all the elephants that have died in Kenya, these deaths are the hardest to bear. The grief in Kenya at the slaughter of our iconic elephants brings floods of tears, emotional poems, and outrage to the world. I had suspected for days that Satao was dead. The rumors were too many and they came from too many different people for them not to be true. Bad news travels fast in Kenya. Moreover, like everyone who had ever heard of Satao, I was already concerned for his safety.

Then in early March, we heard that Satao had been speared and had two seeping wounds on his flank. Researchers conducted aerial surveys to scout the region for Satao. They took their airplane hundreds of feet into the air and flew all over areas he typically roamed. Once he was found, veterinarians rushed to the scene and confirmed that these were arrow wounds.

It's hard to imagine what was going through the minds of the poachers on the day they found this mountain of an elephant. Yet all they could see was his massive tusks while spearing him with crude bows and poisoned arrows. For days Satao must have endured excruciating pain from the festering wounds. But he recovered and we all heaved a sigh of relief when it was reported that his wounds were healing.

Then in the first week of June a massive elephant carcass was found in a swamp. The Kenyan Wildlife Service Anti-Poaching Patrol was deployed to the scene. These skilled trackers know the region better than anyone, and use this knowledge to search the ground for clues to track elephants and poachers alike.

It was certainly a giant tusker, but it was hard to tell if this was Satao, as the face was mutilated and the tusks gone. They again flew over the park and searched for Satao, hoping against all odds that he was still alive. But on June 12th the Kenyan Wildlife Service confirmed that it was Satao.

It is not only the rangers in Tsavo or those who knew Satao who are sorrowful, all of Kenya is in a state of deep grief. Satao was not just a Kenyan icon, he was a global treasure. He was such a phenomenal size that we knew poachers would want him, and no effort was spared to protect him. Researchers are now attaching global positioning system (GPS) collars to track elephant movements around the region. But even with the help of technology, we couldn't save Mountain Bull or Satao. We need to continue developing innovative, creative methods to help save elephants in the fight against poaching.

Lesson 11

How are tusk causing the decline in elephant populations?

Grades 4-6

Activity Sheet 32
Extension Activity

How can accelerometers catch criminals in the act of poaching?

Number each picture to put the alarm sequence in order from start to finish.

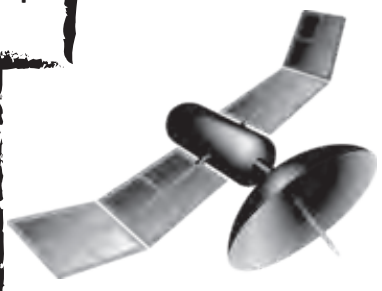
Step:

Officers in the field receive alerts on their cell phone

Step:

Officers use the GPS data to find the distressed elephant

Step:



Satellite receives signal from elephant and relays to computer

Step:

Because of their quick response, officers are able to catch the poachers

Step:

The accelerometer records an elephant may be in distress.

Step:

Wildlife officer's computer records the danger of extended resting behavior and triggers alarm

You can help elephants by donating to wildlife conservation funds!