

## THE IVORY STORY TEACHER GUIDE

### HOW CAN BIOTECHNOLOGY HELP TO CONSERVE A SPECIES?

or

### “Who Dung It?”

As the noise of the airport surrounds you, you can't believe that your grandparents are already back from their trip. They have been gone for three months traveling around the world. They visited all sorts of exotic places in Europe, Africa, and Asia.

You keep your eyes focused on the door leading from customs hoping to spot your grandparents so that you can help them get home as soon as possible. You wonder what amazing tales your grandparents will spin, and what wonderful treasures might be contained in their bags. And more importantly, what cool stuff they brought back for the grandkids! Weary travelers roll their suitcases through the narrow doors from customs. You notice that one of the custom agents is talking to your grandparents and then the three of them walk through a door marked “Restricted.”

You wait for a while, watching the door that your grandparents walked through, when you see a serious-looking woman approach you. She quickly identifies herself as a U.S. Customs agent stationed at Sea-Tac airport. The two of you walk together through the door marked “Restricted,” where you find your grandparents who are visibly upset. They are sitting near a table upon which lies their opened luggage, with all of their contents strewn about. A chunk of elephant tusk eight inches long (about the size and shape of a two liter bottle of pop) is sitting on the table, away from the luggage and their contents. Your grandmother is crying and repeating the phrase “We didn't know. We just didn't know!” The Customs agent quickly explains that the tusk is most likely from an African elephant and that it would be immediately confiscated. She explains that there is a CITES ban on the sale and international transport of ivory from certain African countries. Your grandfather angrily explains that they bought the tusk from a street vendor in Hong Kong, and they had no idea that there would be a problem with bringing it into the U.S.! He was planning to carve the tusk into a cribbage board. The Customs agent says that your grandparents are free to go, and that they would be contacted later about what legal actions the U.S. government might take. She also says that your grandparents should not leave the country again any time soon.

Customs Agent Lisa Luebner felt anxious. She just confiscated her first piece of ivory, but it was from an older couple coming back to Seattle from a trip around the world. They seemed like such nice folks. She wasn't sure what to do next so she called her supervisor. Her supervisor told her that she should send the ivory to the U.S. Fish and Wildlife Service Forensic Laboratory in Ashland, Oregon. She sent the ivory the next day with a courier to the lab in Ashland.

**STOP – Brainstorm: What is the issue? What do students know about the issue (i.e. geography of Africa, current laws, etc.)? What do the scientists at the Lab in Ashland need to know in order to identify the ivory?**

Later that week she received the ivory back, with a report from the lab stating that the ivory was indeed from an African elephant. The next step was to find out where in



Africa the ivory originated. The researchers in Ashland suggested that Ms. Luebner contact Dr. Kenine Comstock in Seattle. Ms. Luebner read in the report that Dr. Comstock is currently conducting research to characterize populations of African elephants by their DNA. Ms. Luebner contacted Dr. Comstock and sent the confiscated ivory to her right away. She called the couple of travelers to let them know the status of the investigation.

**STOP – Brainstorm: What would Dr. Comstock need to know to determine the origin of the ivory?**

**TASKS FOR THE UNIT:**

1. Students will “add new data” to the current knowledge base concerning African elephants.
2. Students will apply their knowledge of biotechnology to determine the source of the confiscated ivory.
3. Students will determine how biotechnology can help to conserve a species.



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*THE IVORY STORY*  
*OPTIONAL SCENARIO*  
*“A FRIEND”*  
*TEACHER GUIDE*

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