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## Nonfiction Test Review

Test date:  
Wednesday, November 7



### Big Talkers

By Peter Winkler

Elephants warn each other when danger, such as a lion is near.

Earth's largest land animals have a lot to say—even when they don't seem to be making a sound.

Thirsty and hot, twelve elephants plod across the fried African landscape. The water hole is less than a mile away now, and everyone in the herd is looking forward to a good, long drink. Tired calves want to stop, but mothers and aunts

nudge them along. The older animals make soft, soothing noises. "We're almost there," they seem to say, "Just keep walking."

Suddenly everyone stops. Huge ears stretch out like satellite dishes. After a minute or two of what seems like silence, the animals turn and walk away from the water hole—fast. As they go, the adults huddle close to the calves.

So what happened? Why did the elephants change their course? They seemed to be listening to something. And whatever it was, they got the message to flee! Yet human ears heard nothing.

Elephants make plenty of sounds that humans can hear, such as barks, snorts, roars, and trumpet-like calls. Often a herd will use such sounds to talk with other elephants. But they weren't in the air this time.

#### Second Language

For years, elephants puzzled observers with this type of behavior. But now scientists have solved the mystery. They discovered that elephants have a "secret" language they use for communicating over long distances.

This special talk is based on infrasound, sounds so low in pitch that humans can't hear them. The sounds can travel for several miles, allowing the six-ton animals to keep in touch across grasslands and forests in Africa or Asia.

To study elephant infrasound, researchers use special equipment that can record low-pitch sound waves. Another machine, called a spectrograph, translates the recorded sound waves into images, or markings, that we can see. The images stand for various messages.

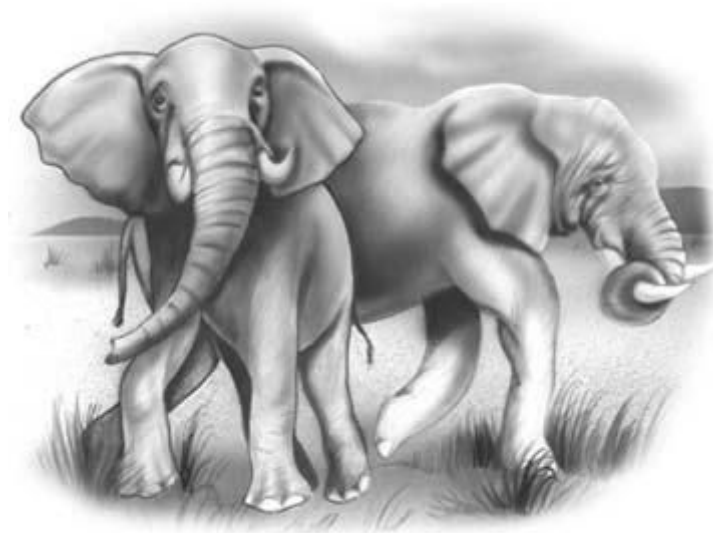
Translating infrasound helps scientists begin to understand elephant behavior. For example, it turns out that the elephants heading to the water hole may have heard warning calls from another herd. Perhaps a lion was slurping water and looking hungry. The cat would be no match for an adult elephant, but it might kill a calf. No drink would be worth that risk, so the herd turned away.

### **Long-Distance Calls**

Elephants use infrasound to communicate many types of messages over long distances. Some of their talk helps hold families together. To understand how this works, you need to know a little about elephant families.

Females spend their lives with mothers, sisters, and children. They form tight-knit herds of ten or twenty members. The oldest female elephant—the matriarch—takes charge. Males live with a herd until they are teenagers. Then they depart, living alone or joining with other males in a “bachelor herd.”

The members of a herd often scatter over large areas to seek food for their mighty appetites. (An adult elephant can eat 300 pounds of grass and plants in a single day!) Long-distance calls let elephants know where their relatives are. And when the matriarch says, “Come here!” the herd gathers within minutes.



Like curious kittens, elephant calves sometimes wander off and get into trouble. When that happens, they cry for help. Adults respond with infrasound calls and other noises: “It’s okay. We’re coming to help you.”

### **Hearing Aids**

Elephants tune in to all this talk with their large, powerful ears. An African elephant’s ear can grow to be six feet long and four feet wide. (Asian elephants have much smaller ears.) When straining to hear something, the animal turns toward the sound and opens its ears wide.

At the same time, the elephant may raise its trunk to sniff at the wind. Elephants have a keen sense of smell. Odors may help them figure out what they're hearing.

Elephants may have yet another way of learning what's going on around them. Although scientists haven't proved it, some think elephants can actually feel infrasound as the sound waves travel through the ground.

### **Distress Call**

Communication skills help Earth's largest land animals survive in the wild. But even these skills can't save elephants from extinction.

In 1997, Africa's elephant population was about 500,000. That may sound like a lot, but there were 1.3 million African elephants in 1979. More than half of the elephant population vanished in only 18 years.

How did this happen? Poachers killed many elephants for their ivory tusks, because ivory can be sold for a lot of money.

And a growing human population wiped out vast amounts of elephant habitat to build farms and towns. Elephants from these areas wandered into human settlements. Some elephants ate valuable crops and made some farmers angry enough to kill them.

### **How Will We Answer?**

Conservationists are working hard to save elephants. Wildlife groups are trying to persuade people around the world to stop buying ivory.

Elephant supporters are also working with African communities to maintain parks where elephants can be safe and will not harm crops. Some conservationists hope that tourists will visit these beloved animals there. That would mean jobs for local people, who would then view elephants as a valuable resource to protect.



1. The main idea in the 'Hearing Aids' section of the article is that elephants
  - A. talk to each other using barks, snorts, roars, and trumpet-like calls.
  - B. use hearing, smelling, and feeling to know what is going on.
  - C. live in a matriarchal society in which the oldest female is the leader.
  - D. are dying out because of people taking their land
  
2. Which *best* states the main idea of 'Long-Distance Calls'?
  - A. Elephants use infrasound to tell young elephants that everything is okay.
  - B. The matriarch controls the herd and brings the elephants together.
  - C. When one elephant wants to annoy another elephant they make a series of calls.
  - D. Infrasound allows elephants to keep in contact with family members and other elephants.
  
3. Which detail from the passage *best* supports that female elephants are the ones that protect the young?
  - A. 'Elephants make sounds such as barks, snorts, roars, and trumpet-like calls.'
  - B. 'Some elephants can feel infrasound as the sound waves travel the ground.'
  - C. 'Elephants have a keen sense of smell.'
  - D. 'Females spend their lives with mothers, sisters, and children in tight-knit herds of ten or twenty.'
  
4. According to the passage, which is *not* a threat for elephants?
  - A. lions
  - B. poachers
  - C. growing populations
  - D. tourists
  
5. In paragraph 7, the author includes information about infrasound mainly to support the idea that-
  - A. Elephants have good hearing.
  - B. Elephants communicate in a special way that lets them stay in touch even when they are far from each other.
  - C. Conservationists are working to save elephants.
  - D. Elephants live in herds of ten or twenty members.

6. Which text structure is most evident in the section 'Distress Call'?
- A. Chronological
  - B. Problem and Solution
  - C. Cause and Effect
  - D. Compare and Contrast
7. The author organizes this article by-
- A. Explaining how elephants communicate in different ways
  - B. Describing how conservationists are helping save elephants
  - C. Comparing and contrasting the characteristics of elephants and lions
  - D. Telling a story about elephants

Write a summary for the paragraph "**Second Language**" using the boxes and bullets strategy below: (4pts.)

Main Idea: Elephants communicate over long distances by using infrasound, sounds so low in pitch that humans can't hear them, and scientists have used this to learn more about elephant behaviors.

- Infrasound allows elephants to communicate over distances of several miles.
- Researchers study how elephants use infrasound by recording low-pitch sound waves.
- A spectrograph translates the sounds into images, which stand for different messages, and scientists can use these to understand elephant behavior.

Write a summary for the article, **Big Talkers**, using the boxes and bullets strategy below: (4 pts.)

Main idea: Elephants have a unique way of communicating with each other.

- Elephants have a “secret language.” They communicate by using infrasound.
- Elephants use infrasound to communicate many types of messages over long distance.
- Some scientists think elephants can feel the infrasound to help them communicate.