

The Ear Shape Experiment

What is the question we're trying to answer?

What are the features of ear shapes and what do you think they do?

HYPOTHESIS FIRST

Let's figure out a hypothesis for our question. For each of the features, talk about why you think they do what you think they do. Also, think about the animal and the lifestyle it lives. Is it a predator? Prey? Does it run? Swim? Fly? What sounds do they make? What sounds do you think they listen to? Answers to these questions should shape your hypothesis and prediction.

Your prediction should be a specific statement about what you expect to see. For example, "I predict the larger ears will make sounds seem louder"

Your hypothesis should be a general statement about what drives the effect they expect to see. For example, "I hypothesize that larger ears make sounds seem louder, because they will act as a funnel and catch more sound."

When finished hypothesizing, turn to the **Experiment First** section, and complete the task.

EXPERIMENT FIRST

Work in pairs or groups of two or three:

Wearer—they try on the ears.

Speaker (1 or 2 people)—they make test sounds, write notes.

Wearer instructions:

Try on a pair of ears. Stand in one place and close your eyes.

Listen to a series of sounds, note which one was easiest to hear, and which one was hardest.

Remove the ears. Listen to the sounds again, note which one was easiest and hardest to hear.

Speaker instructions:

When the wearer has on ears, **make three sounds**: a loud sound, a whispering sound, and a location sound. For a whisper sound, speak quietly, and make a lot of 's', 'k' and 't' sounds. For the loud sound, stand 5 ft away from the Wearer and make a short, louder noise (like "HA!"). For the location sound, quietly move around the wearer and make short normal-level noises. Try different heights, too!

When finished with the experiment, turn to the **Hypothesis First** section, and complete the task.



HYPOTHESIS:

PREDICTIONS:

EXPERIMENTAL DATA:

Ear type↓ Sound:	LOUD	WHISPER	LOCATION	NO DIFFERENCE
ANTELOPE				
BAT				
ELEPHANT				
MOUSE				
PIG				
SEA LION				

DISCUSSION

What was the most interesting part of the experiment?

Were your predictions true?

Does this prove or disprove your hypothesis? If yes, check the box next to Hypothesis on the previous page.

Since doing the experiment, do you have more questions? What are they?

Draw some ear shapes!

