

Technology and Hearing

Summary

Students will investigate and describe how engineers have developed devices to help us sense various types of energy. They will take an online "hearing test" to check their hearing.

Time Frame

1 class periods of 60 minutes each

Group Size

Individual

Materials

- [student worksheet](#)

(attached)

computers and earphones for each student or group of students or a classroom computer with speakers.

Background for Teachers

Normal Hearing

When something makes a noise, it sends vibrations, or sound waves, through the air. The human eardrum is a stretched membrane, like the skin of a drum. When the sound waves hit your eardrum, it vibrates. After the vibrations hit your eardrum, a chain reaction is set off. Your eardrum, which is smaller and thinner than the nail on your pinky finger, sends the vibrations to the three smallest bones in your body. First the hammer, then the anvil, and finally, the stirrup. The stirrup passes those vibrations along a coiled tube in the inner ear called the cochlea.

Inside the cochlea there are thousands of hair-like nerve endings, cilia. When the Cochlea vibrates, the cilia move. Your brain is sent these messages (translated from vibrations by the cilia) through the auditory nerve. Your brain then translates all that and tells you what you are hearing. Neurologists don't yet fully understand how we process raw sound data once it enters the cerebral cortex in the brain.

Instructional Procedures

If students are going to use computers, ask them a day ahead of time to bring their own earphones. If they do not have earphone, they can listen to the computer without them but the classroom noise will interfere.

If the teacher is going to use the computer and broadcast the sounds, make sure your speakers work well enough to transmit the web pages.

Read the introduction with the students and set up computers. Students will work independently on the web guide.

Assessment Plan

Scoring Guide

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Use the [scoring guide](#) attached.

Bibliography

Lesson Design by Jordan School District Teachers and Staff.

Authors

[Utah LessonPlans](#)