



[KidsHealth.org/classroom](http://KidsHealth.org/classroom)

## Teacher's Guide

This guide includes:

- Standards
- Related Links
- Discussion Questions
- Activities for Students
- Reproducible Materials

## Standards

This guide correlates with the following National Health Education Standards:

Students will:

- Comprehend concepts related to health promotion and disease prevention to enhance health.
- Analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.
- Demonstrate the ability to access valid information and products and services to enhance health.
- Demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
- Demonstrate the ability to use decision-making skills to enhance health.
- Demonstrate the ability to use goal-setting skills to enhance health.
- Demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.
- Demonstrate the ability to advocate for personal, family, and community health.

National Health Education Standards: [www.cdc.gov/healthyschools/sher/standards/index.htm](http://www.cdc.gov/healthyschools/sher/standards/index.htm)

Your students might not realize the damaging effects that loud noises in their everyday environment can have. These activities will help your students realize the importance of protecting their hearing, as well as understand the challenges faced by hearing-impaired teens.

## Related KidsHealth Links

### Articles for Teens:

#### Ears

[TeensHealth.org/en/teens/ears.html](http://TeensHealth.org/en/teens/ears.html)

#### Earbuds

[TeensHealth.org/en/teens/earbuds.html](http://TeensHealth.org/en/teens/earbuds.html)

#### Hearing Impairment

[TeensHealth.org/en/teens/hearing-aids.html](http://TeensHealth.org/en/teens/hearing-aids.html)

#### Hearing Aids

[TeensHealth.org/en/teens/hearing-aids.html](http://TeensHealth.org/en/teens/hearing-aids.html)

#### Swimmer's Ear (External Otitis)

[TeensHealth.org/en/teens/swimmers-ear.html](http://TeensHealth.org/en/teens/swimmers-ear.html)

#### Perforated Eardrum

[TeensHealth.org/en/teens/eardrums.html](http://TeensHealth.org/en/teens/eardrums.html)

### Special Needs Factsheet for Teachers:

#### Hearing Impairments

[KidsHealth.org/en/parents/hearing-factsheet.html](http://KidsHealth.org/en/parents/hearing-factsheet.html)

## Discussion Questions

*Note: The following questions are written in language appropriate for sharing with your students.*

1. Name some of the causes of hearing loss.
2. How do your ears get messages to your brain so you can interpret sounds around you?
3. Name some ways to care for your ears and protect your hearing.
4. "Are you listening?" is a common question asked by teachers. Are listening and hearing the same thing?
5. What do your ears help you do besides hear?
6. What challenges do hearing-impaired teens face?



## Activities for Students

*Note: The following activities are written in language appropriate for sharing with your students.*

### Turning Down Hearing Loss Risks

#### Objectives:

Students will:

- Demonstrate an understanding of how to prevent noise-induced hearing loss (NIHL)

#### Materials:

- Computer with Internet access, TeensHealth.org articles related to hearing
- Posterboard, markers, audiovisual recording and viewing equipment

#### Class Time:

- 1 to 4 hours, depending on materials produced (can be divided into multiple sessions)

#### Activity:

Noise-induced hearing loss (NIHL) is caused by too much exposure to loud noises, which can permanently damage the hairs on cells in the cochlea. One of the main causes of NIHL among U.S. teens is the use of portable music players. Concerts, video games, TVs, movie theaters, automobile traffic, power tools, and even some appliances can also be too noisy for many people. Fortunately, NIHL is almost 100% preventable if people take steps to protect their ears.

To help local kids avoid this problem, create a multimedia awareness campaign for middle schoolers to alert them to the risks and consequences of noise-induced hearing impairment, especially related to earbuds. Create a brief public service announcement (PSA) audio clip, no longer than 30 seconds, to be played during school announcements. Also create posters offering tips to avoid NIHL, as well as a PowerPoint presentation, or an online slideshow, video, or music video featuring tips about protecting hearing and caring for the ears. Make sure the materials you create are age-appropriate and engaging for your intended audience, and that they include fun and memorable messages.

[Note to instructor: You can divide your class into small groups and assign each media type to a different group.]

#### Extension:

Have your class present its awareness campaign to a middle school class or middle school assembly.



## Hearing Impairment Q&A

### Objectives:

Students will:

- Experience and understand the challenges that can accompany hearing impairment

### Materials:

- Ear plugs, sound-blocking headphones or other sound-blocking devices
- Paper, pencil or pen

### Class Time:

- At least 90 minutes outside school

### Activity:

To help you understand the challenges faced by people with hearing impairment or deafness, you're going to experience the challenges yourself. Spend at least 1 hour over a Saturday or Sunday wearing ear plugs, sound-blocking headphones or another sound-blocking device. You'll have to be especially careful during some basic activities, such as crossing a street or other things that you might partially depend on hearing to do. Then write a report about how your day without hearing went. Make sure to include interactions with people around you and the emotions you felt.

### Extension:

With a partner, check out books or online resources on American Sign Language (ASL) and learn enough signs to demonstrate a brief, casual conversation in front of the class. Demonstrate your conversation twice - the first time silently, and the second time speaking aloud while using your ASL signs so the class can listen in on your conversation.

## Reproducible Materials

### Quiz: Hearing

[KidsHealth.org/classroom/9to12/body/functions/hearing\\_quiz.pdf](https://www.KidsHealth.org/classroom/9to12/body/functions/hearing_quiz.pdf)

### Answer Key: Hearing

[KidsHealth.org/classroom/9to12/body/functions/hearing\\_quiz\\_answers.pdf](https://www.KidsHealth.org/classroom/9to12/body/functions/hearing_quiz_answers.pdf)



Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Quiz

Instructions: Answer each question.

- Your ears:
  - collect and process sounds
  - send signals to your brain
  - help you keep your balance
  - all of the above
- The \_\_\_\_\_ connects your middle ear to the upper part of your throat and helps equalize the pressure on both sides of the eardrum.
- True or false: Earwax contains chemicals that fight off infections inside the ear canal.
- Listening to music on earbuds too loud over a long period of time can cause:
  - auditory processing disorder
  - otitis media
  - noise-induced hearing loss (NIHL)
- \_\_\_\_\_ hearing loss is present at birth. \_\_\_\_\_ hearing loss happens later in life.
- A ringing, humming, buzzing, roaring, or clicking in the ears is called \_\_\_\_\_.
- True or false: Hearing loss is the most common birth defect.
- Name three things that can cause hearing impairment:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- The snail shell-shaped, fluid-filled \_\_\_\_\_ converts the vibrations from the middle ear into nerve impulses.
- The three smallest bones in the body, located just past the eardrum, are:
  - the tibia, the fibula, and the phalange
  - the malleus, the incus, and the stapes
  - the morpheus, the incubus, and the hades
- The \_\_\_\_\_, in the middle ear, is the smallest bone in the body.
- The part of the ear that is visible on the side of your head is called the \_\_\_\_\_ or auricle. It's made of \_\_\_\_\_ covered by skin, and its main job is to gather sounds and funnel them to the ear \_\_\_\_\_.



## Quiz Answer Key

1. Your ears:
  - a. collect and process sounds
  - b. send signals to your brain
  - c. help you keep your balance
  - d. all of the above
2. The eustachian tube connects your middle ear to the upper part of your throat and helps equalize the pressure on both sides of the eardrum.
3. True or false: Earwax contains chemicals that fight off infections inside the ear canal.
4. Listening to music on earbuds too loud over a long period of time can cause:
  - a. auditory processing disorder
  - b. otitis media
  - c. noise-induced hearing loss (NIHL)
5. Congenital hearing loss is present at birth. Acquired hearing loss happens later in life.
6. A ringing, humming, buzzing, roaring, or clicking in the ears is called tinnitus.
7. True or false: Hearing loss is the most common birth defect.
8. Name three things that can cause hearing impairment:  
(any three of the following: genes, head injuries, infections or illnesses, loud noises, medications)  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
9. The snail shell-shaped, fluid-filled cochlea converts the vibrations from the middle ear into nerve impulses.
10. The three smallest bones in the body, located just past the eardrum, are:
  - a. the tibia, the fibula, and the phalange
  - b. the malleus, the incus, and the stapes
  - c. the morpheus, the incubus, and the hades
11. The stapes, in the middle ear, is the smallest bone in the body.
12. The part of the ear that is visible on the side of your head is called the pinna or auricle. It's made of cartilage covered by skin, and its main job is to gather sounds and funnel them to the ear canal.