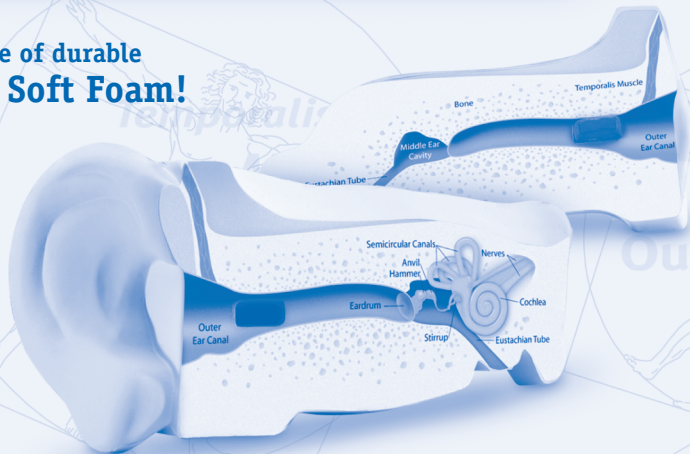


Grades 2+

Cross Section **HUMAN EAR** MODEL

Made of durable
Soft Foam!



Explore the mystery of hearing through hands-on investigation!

How an ear works

Sound travels through the air by vibrations or sound waves that cause a difference in air pressure. The visible outer part of the ear is called the *pinna*. It collects and sends sound waves through the ear canal to the eardrum. The eardrum vibrates and amplifies sound. The ossicle bones vibrate to further amplify sound waves before reaching the inner ear. In the inner ear, sound waves vibrate fluid inside the cochlea, which is lined with very small hairs. These hairs detect the movement of the fluid and translate sound waves into nerve impulses, which are then interpreted by the brain.

Taking Care of Ears

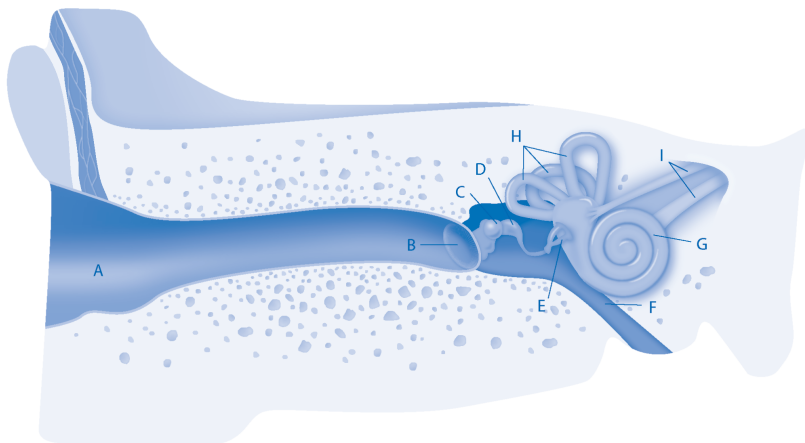
The ears play an important role in how we interact with the environment and help us maintain balance. Damage to ears can result in partial or complete hearing loss.

Loud sounds can damage ears, especially when exposed for extended amounts of time. At a loud music concert, protect ears by wearing earplugs to dampen sound waves.

Swimming in dirty water or allowing water to sit in the ear after a shower can cause an infection. Water can also infect by washing away an ear's protective, waxy substance. Moisture in the ear canal attracts bacteria. Dry and shake water from the ears after swimming or showering.

Explore the mysteries of the human ear with this cross-section foam ear model. A hands-on introduction to the auditory universe, this model is ideal for teaching the importance of hearing in overall body function. Featured are general facts about hearing and detailed explanations for each ear part represented by the model.

Parts of a human ear (as represented by the model)

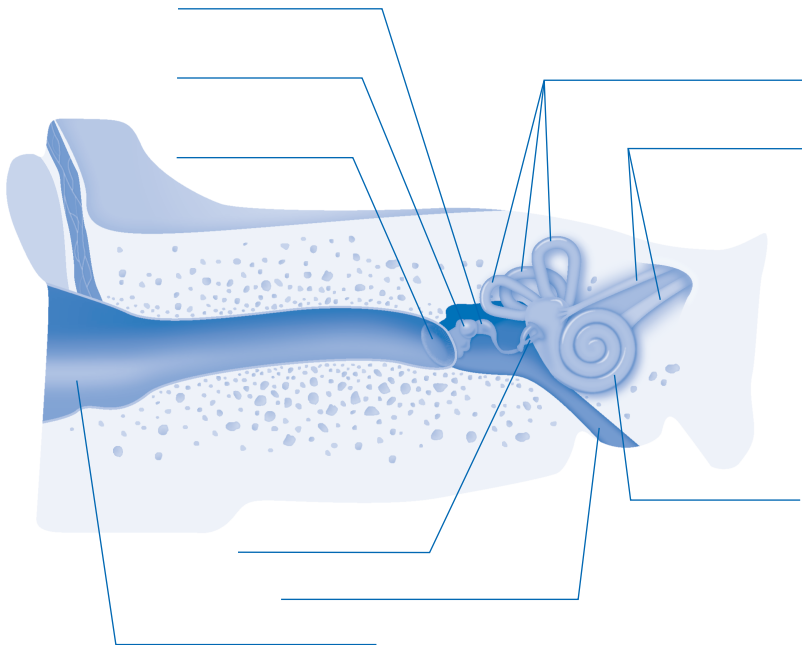


- A. **outer ear canal** – the location in which sound travels from the outer ear to the eardrum
- B. **eardrum** – thin piece of skin separating the outer and middle ear that vibrates and amplifies sound waves before entering the middle ear
- C. **hammer (malleus)** – the first small bone of the ossicles; responsible for transferring sound vibrations to the anvil
- D. **anvil (incus)** – the second small bone of the ossicles that works with the hammer and stirrup to pass sound vibrations into the stirrup
- E. **stirrup (stapes)** – the third bone of the ossicles; the smallest bone in the human body that passes sound vibrations into the inner ear
- F. **eustachian tube** – connects the middle ear to the nose and maintains the pressure between outside air and the middle ear
- G. **cochlea** – connects the middle ear to the nose and maintains the pressure between outside air and the middle ear
- H. **semicircular canal** – fluid-filled tubes atop the cochlea that help us maintain our balance
- I. **nerves** – carry signals from the cochlea to the brain for interpretation

Worksheet

Fill in the parts of an ear.

Name: _____



Suggested Activities

- Allow students to hold the cross-section foam ear model. Ask for observations and have them discuss what they already know about ears and hearing.
- Quiz students on the different parts of an ear. Make photocopies of page 6 to use as a quiz.
- Encourage students to research on the internet or at the library to discover more about ears and hearing.
- Have students sit in a circle and pass the model's halves in opposite directions. When one student receives both halves at once, that student should recite on fact about hearing or name an ear part. After the fact is verified, redistribute halves to two different students and start again. Facts or ear parts should not be repeated more than once.

Look for these related items from Learning Resources®:

LER 2006 Power Of Science® -Light & Sound

LER 5840 Layers of the Body Flip Chart

LER 9531 Five Senses Bingo



For a dealer near you, call:
(847) 573-8400 (U.S. & Int'l)
(800) 222-3909 (U.S. & Canada)
+44 (0)1553 762276 (U.K. & Europe)



© Learning Resources, Inc., Vernon Hills, IL (U.S.A.)
Learning Resources Ltd., King's Lynn, Norfolk (U.K.)
Please retain our address for future reference.
Made in China. LRM1906-GUD

Visit our website at:

www.LearningResources.com