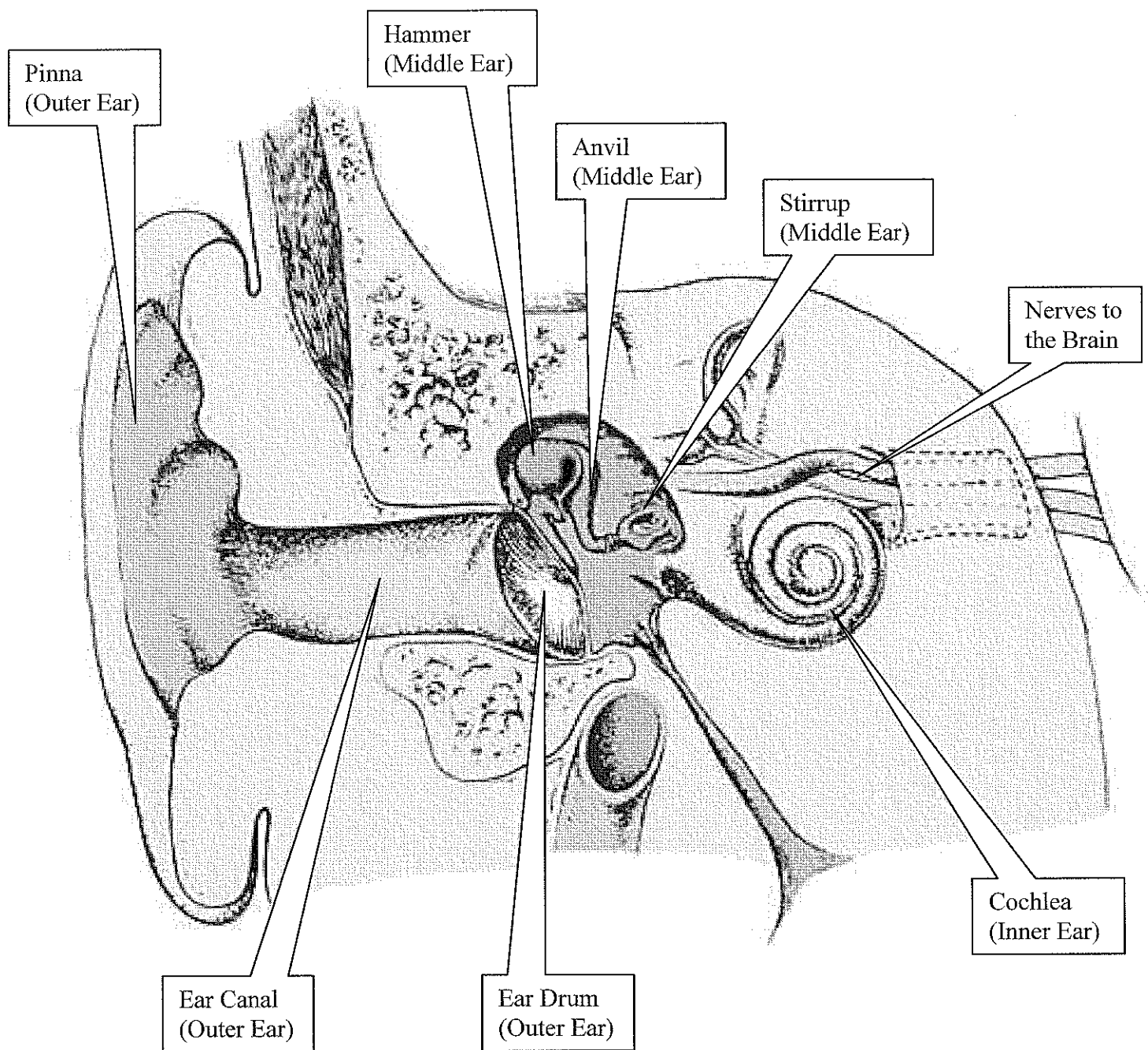


Parts of the Ear Diagram



Sound Wave Experiment Observation Sheet

Question: Do you think the salt will react to sound waves?	
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Observations: How did the salt react to sound?	
What happened when the salt was moved farther away from the speaker?	
What happened when the speaker was covered or muffled?	
What happened to the salt as the sound got louder?	



SOUND INSIDE YOUR EARS

When sound waves go in your ears, they vibrate tiny hair cells called “stereocilia”

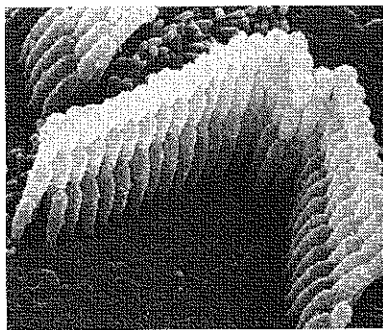
These inner ear hairs are much smaller than pieces of salt or even grains of sand.

If the sound waves are too intense, they can break off and damage these tiny hairs.

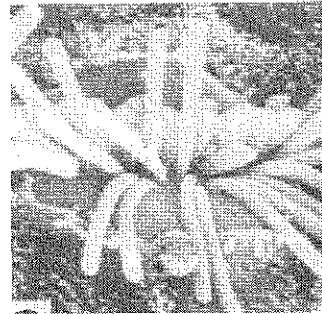
Single
Stereocilia
Cell



Normal Stereocilia



Damaged Stereocilia



Research shows between 15% and 20% of American teens have already suffered hearing damage due to noise exposure by the time they leave high school.

3 Ways to Protect Your Hearing

1. Turn it Down
2. Protect Your Ears
3. Walk Away

Facts about Hearing Loss

People of all ages can suffer from hearing loss for different reasons.

1. Certain illnesses or diseases can cause hearing loss
2. Sometimes an injury can cause hearing loss
3. The natural aging process (getting older) can cause hearing loss
4. Exposure to loud noises



**Losing your hearing from being exposed to loud noises is called
NOISE-INDUCED HEARING LOSS (NIHL)**

Facts about Noise-Induced Hearing Loss

1. Of the roughly 36 million Americans suffering from hearing loss, about 1/3 of it is from Noise-Induced Hearing Loss
2. NIHL and tinnitus (a ringing in the ears) are becoming more common, especially in US children ages 6-19 years of age (at least 5.2 million children as of 2001)
3. NIHL can be caused by a one-time exposure to a loud sound (like an explosion)
4. NIHL can also be caused by repeated exposure to loud levels over many years
5. NIHL happens because of damage to the microscopic hair cells inside the cochlea (the snail-like part of the inner ear)
6. NIHL can be sneaky. The early effects of NIHL can often go unnoticed at first, but will eventually cause changes in the sound (volume and types of sounds) you're able to hear.