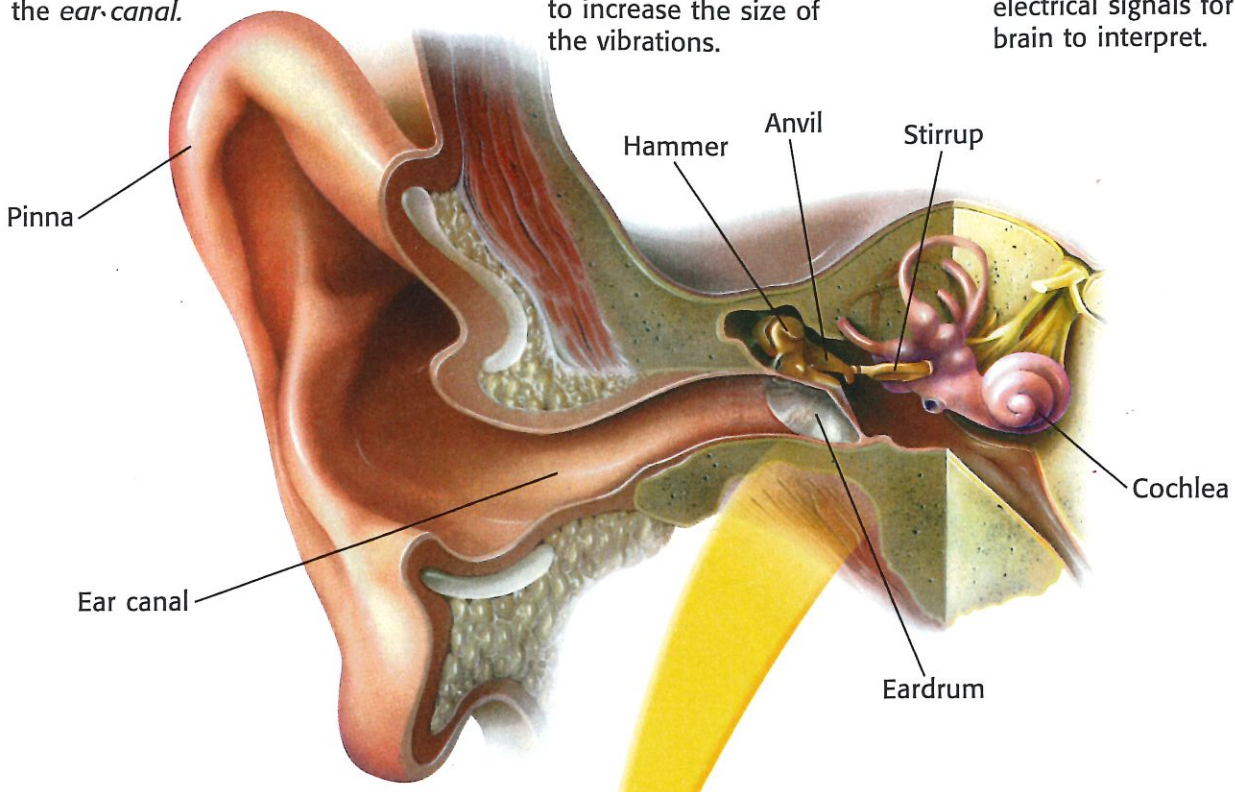
How the Human Ear Works

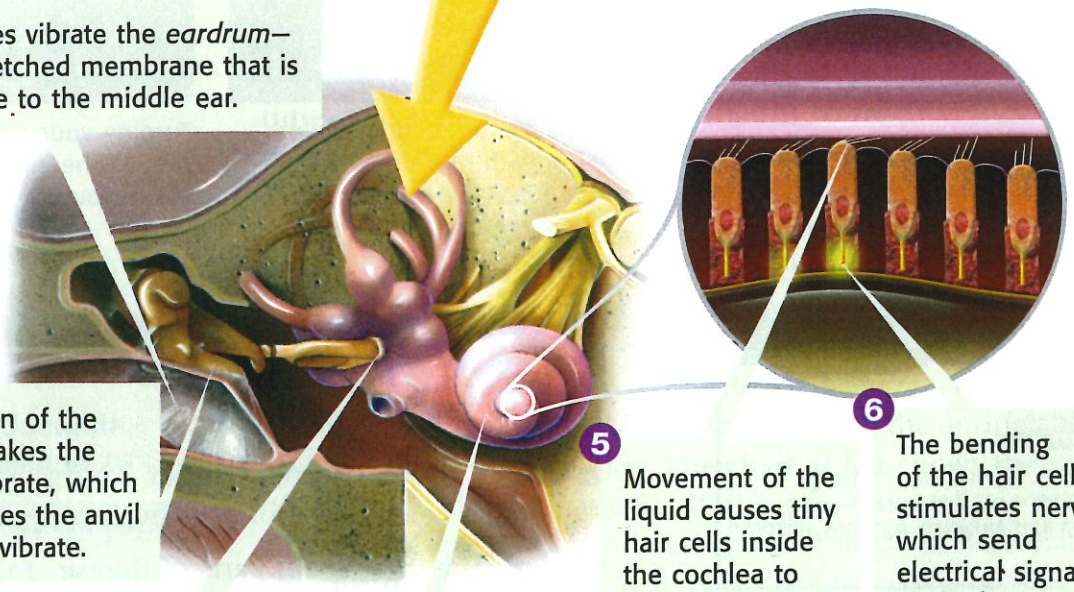
a The **outer ear** acts as a funnel for sound waves. The *pinna* collects sound waves and directs them into the *ear canal.*

b In the **middle ear,** three bones—the *hammer, anvil,* and *stirrup*—act as levers to increase the size of the vibrations.

c The **inner ear** is where vibrations created by sound are changed into electrical signals for the brain to interpret.



1 Sound waves vibrate the *eardrum*—a lightly stretched membrane that is the entrance to the middle ear.



2 The vibration of the eardrum makes the hammer vibrate, which in turn makes the anvil and stirrup vibrate.

3 The stirrup vibrates the *oval window*—the entrance to the inner ear.

4 The vibrations of the oval window create waves in the liquid inside the *cochlea.*

5 Movement of the liquid causes tiny hair cells inside the cochlea to bend.

6 The bending of the hair cells stimulates nerves, which send electrical signals to the brain.