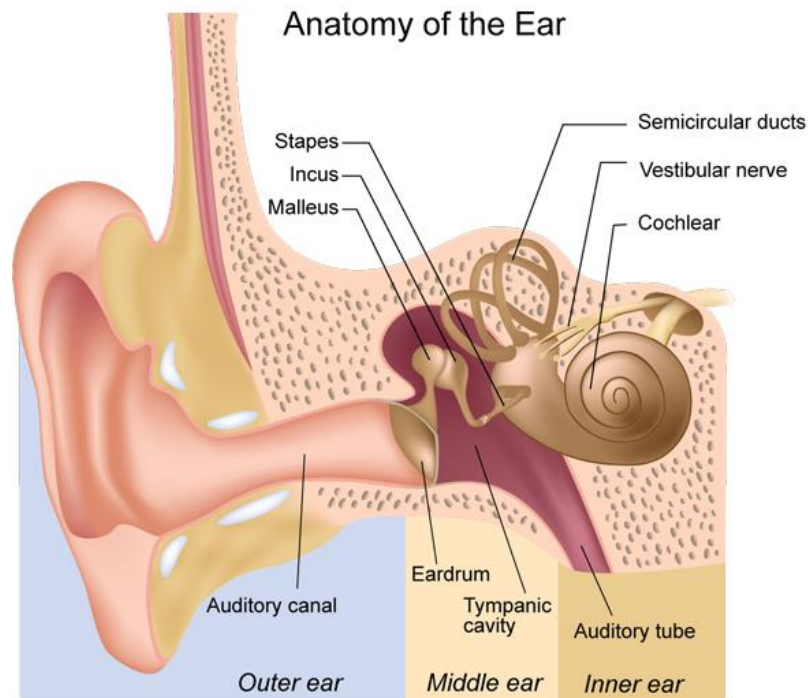


How The Ear Works

Auditory (Hearing) System — the auditory system processes sound information as it travels from the ear to the brain, so our brain pathways are part of our hearing.

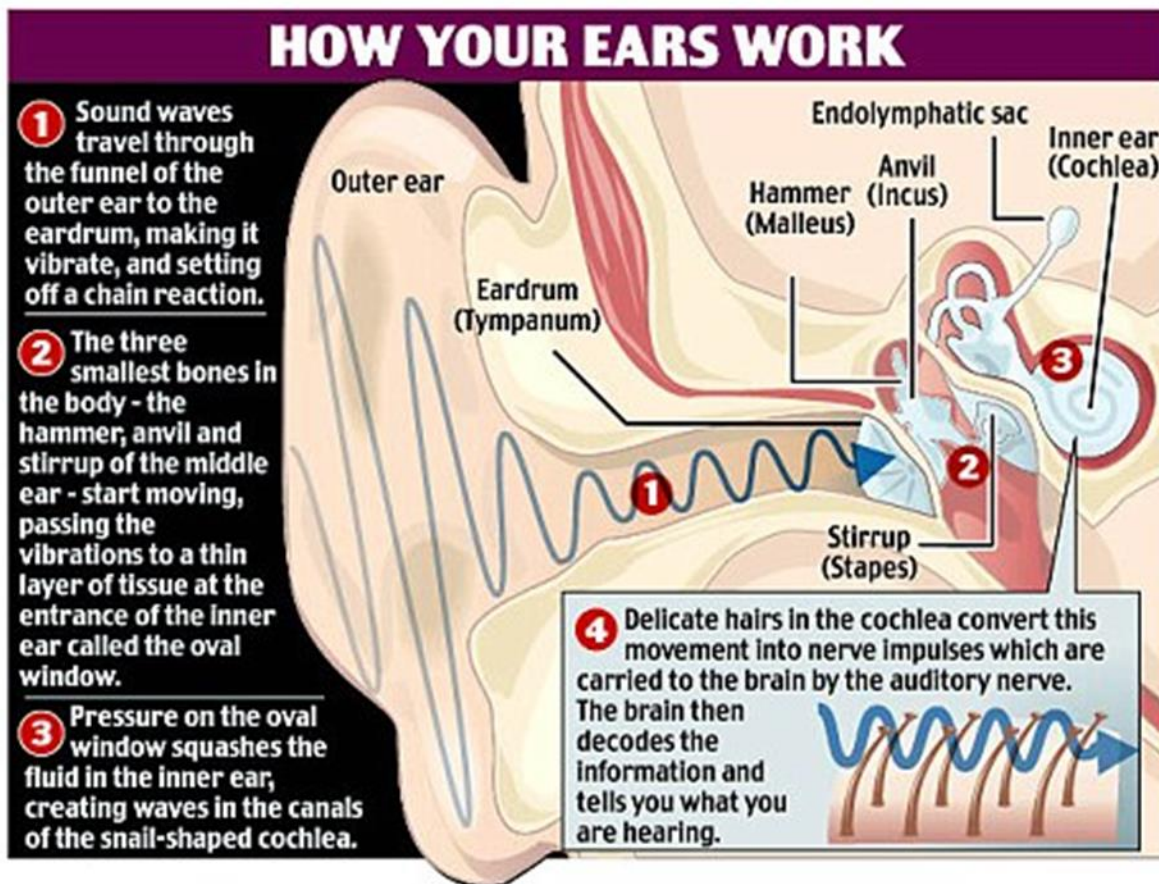


Outer Ear – the outer ear is made up of the part we see on the sides of our heads, known as the pinna, the auditory (ear) canal and the eardrum (tympanic membrane), which separates the outer and middle ear.

Middle Ear – the middle ear is made up of three small bones called the ossicles (malleus, incus, stapes) that send the movement of the eardrum to the inner ear.

Inner Ear – the inner ear is made up of the snail shaped sensory organ for hearing known as the cochlea, the semicircular canals that help with balance and the nerves that go to the brain: the Vestibular Nerve, which gives information about balance, and the Auditory Nerve, which sends sound information from the ear to the brain.

How We Hear



Sound goes into the **outer ear**. The part of the outer ear that we can see is called the **pinna**. It catches sound. Sound travels from the pinna through the **ear canal**. The sound pushes against our **eardrum** (tympanic membrane). The eardrum is a membrane which separates the outer ear and the middle ear. Sound hits the eardrum and makes it vibrate back and forth.

The **middle ear** contains the three smallest bones in the body. They are so small, they could fit on a dime. Together these bones are called the ossicles. Individually they are called the **malleus**, the **incus** and the **stapes**. They are often referred to as the hammer, anvil and stirrup because of their shapes. When the eardrum moves, it makes the three bones move.

The **inner ear** is in the skull bone on the side of your head. This part of the ear contains the **cochlea** and the **auditory nerve**. The cochlea is shaped like a snail and contains thousands of tiny nerve endings called hair cells. These hair cells are tuned somewhat like the keys on a piano. Some of the hair cells respond to low pitch sounds, and some respond to high pitch sounds. These hair cells lead to the auditory nerve, which connects the cochlea to the brain.