

How the Ear Works

The ear has three main parts:

1. Outer

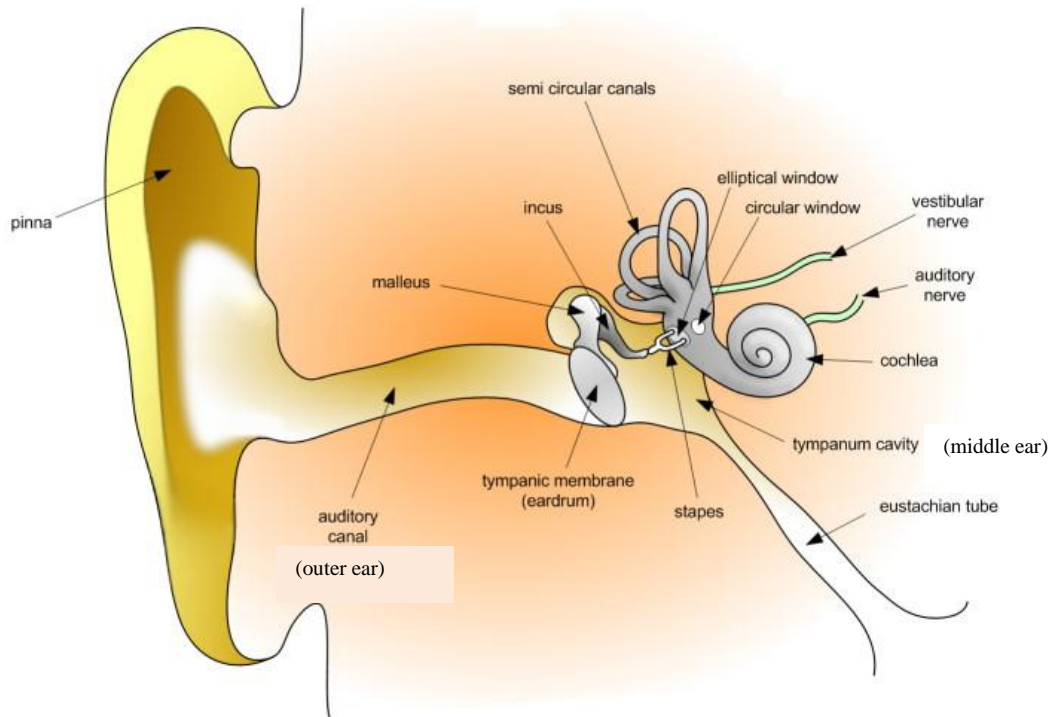
The outer ear (pinna), the part you can see, opens into the ear canal. The eardrum separates the ear canal from the middle ear.

2. Middle

Three small bones in the middle ear help transfer sound to the inner ear.

3. Inner

The inner ear contains the auditory (hearing) nerve, which leads to the brain. The inner ear also has structures which are part of the balance system (semi circular canals)



Any source of sound sends vibrations or sound waves into the air. These funnel through the ear opening, down the ear canal, and strike your eardrum, causing it to vibrate. The vibrations are passed to the small bones of the middle ear, which transmit them to the inner ear (cochlea). Here, the inner ear turns the vibrations into nerve impulses. The nerve impulses then travel to the brain via the Acoustic Nerve (8th cranial nerve). The brain interprets the nerve impulses as sound.

Glossary of terms:

EAC/external auditory canal: outer ear canal

Tympanic membrane/TM: ear drum

Ossicles: bones of hearing—malleus (hammer), incus (anvil), stapes (stirrup)

Cochlea: inner ear

Cerumen: ear wax

Eustachian Tube