

Sound is collected by the pinna (the visible part of the ear) and directed through the outer ear canal. The sound makes the eardrum vibrate, which in turn causes a series of three tiny bones (the hammer, the anvil, and the stirrup) in the middle ear to vibrate. The vibration is transferred to the snail-shaped cochlea in the inner ear; the cochlea is lined with sensitive hairs which trigger the generation of nerve signals that are sent to the brain.

Read the definitions, then label the ear anatomy diagram below.

anvil - (also called the incus) a tiny bone that passes vibrations from the hammer to the stirrup.

cochlea - a spiral-shaped, fluid-filled inner ear structure; it is lined with cilia (tiny hairs) that move when vibrated and cause a nerve impulse to form.

eardrum - (also called the tympanic membrane) a thin membrane that vibrates when sound waves reach it.

Eustachian tube - a tube that connects the middle ear to the back of the nose; it equalizes the pressure between the middle ear and the air outside. When you "pop" your ears as you change altitude (going up a mountain or in an airplane), you are equalizing the air pressure in your middle ear.

hammer - (also called the malleus) a tiny bone that passes vibrations from the eardrum to the anvil.

nerves - these carry electro-chemical signals from the inner ear (the cochlea) to the brain.

outer ear canal - the tube through which sound travels to the eardrum.

pinna - (also called the auricle) the visible part of the outer ear. It collects sound and directs it into the outer ear canal.

semicircular canals - three loops of fluid-filled tubes that are attached to the cochlea in the inner ear. They help us maintain our sense of balance.

stirrup - (also called the stapes) a tiny, U-shaped bone that passes vibrations from the stirrup to the cochlea. This is the smallest bone in the human body (it is 0.25 to 0.33 cm long).

