



Labelling diagrams

Listening – Labelling diagrams (Script)

The human ear is a very complex organ. Many different components are required to collect the sound waves we hear and transmit them to the brain, so we can register or recognise these sounds.

Often when looking at the workings of the human ear we divide the ear into three parts. The Outer Ear, the Middle Ear and the Inner Ear.

On the diagram we can see the outer ear on the left which is known as the Pinna. The Pinna is the only visible part of the ear and it functions somewhat like a funnel, as it assists in collecting sound vibrations which it then directs further into the ear.

After passing the Pinna the sound travels through the Auditory Canal. The canal is slightly curved to make it more difficult for foreign bodies to travel further into the ear and it is here, where ear wax is produced to assist in protecting the canal from things like dust, dirt or insects.

As sounds reach the end of the Auditory Canal they will encounter the Eardrum which is a membrane that marks the beginning of the middle ear. Pressure from sound waves cause the Eardrum to vibrate. These vibrations transmit energy to three tiny bones in the middle ear called the Hammer or Malleus, Anvil or Incus, and Stirrup or Stapes. These bones are collectively known as the Ossicles and they transmit the vibrations from the Eardrum to the inner ear.

The inner ear consists of the Cochlea, the Vestibular and the Auditory Nerve. Cochlea means snail in Latin because of its distinctive coiled up shape, and we can see this here in the inner ear.

Sound waves are transformed into electrical impulses in the Cochlea and then these electrical impulses are transmitted to the brain via the Auditory Nerve which is a bunch of nerve fibres that carry information from the Cochlea to the brain.

Below the Cochlea on the diagram we can also see the Eustachian tube which connects the middle ear to the nasal cavity and pharynx, the part of your throat that is just behind your mouth. This tube is responsible for ventilation of the ear and the regulation of air pressure. Changes in air pressure can occur when you experience sudden rapid ascents or descents such as when flying on an aeroplane.