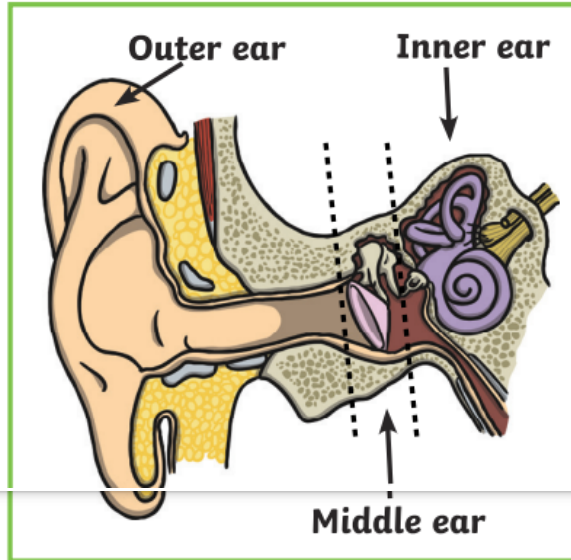


Sense of Hearing

Our ears allow us to detect sounds around us. Humans are able to hear well, being able to hear high and low sounds. Our ears are actually broken down into three different parts.



The Outer Ear – This is the part of the ear that people can see. The size and shape of people's ears is random and it doesn't affect their hearing. People with big ears don't hear better than people with small ears! Some people choose to put earrings at the bottom of their ear but this doesn't affect hearing. The bottom of the ear is called

the earlobe. Most people's earlobes hang free from their heads. Even though this is the main bit of the ear you can see, all it does is collect sound and send it down into the middle ear - a bit like a satellite dish collecting a signal.

The Middle Ear – The outer ear ends where the eardrum starts. The area after the eardrum is called the middle ear. This middle ear is made up of three tiny bones known as the hammer, the anvil and the stirrup. The sound that enters the outer ear makes the eardrum vibrate. These vibrations are picked up by these three bones, which actually form a kind of bridge. The middle ear is the place where the sound gets amplified.

The Inner Ear – The sound travels through the inner ear into something called the cochlea. This is a bit like the shape of a snail shell. It is full of liquid and covered in tiny hairs. As the sounds move through the liquid, they make the



hairs vibrate. These vibrations send messages to the brain, which the brain recognises as particular sounds.

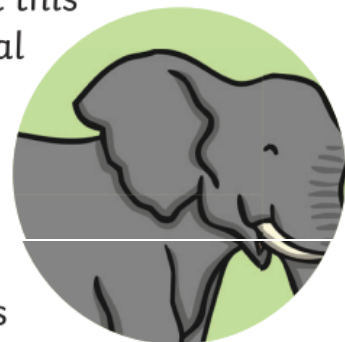
Did you know?

The strongest known ears belong to Manjit Singh. This man pulled a 7.5 ton passenger airline with his ears for a distance of 13 feet. He wore ear harnesses and ropes were attached to them. These ropes were in turn attached to the aircraft.

Our ears are very sensitive. If the hairs inside the cochlea are damaged, you would lose your sense of hearing. If you have ever spun around for a while, you will know what it feels like to be dizzy. This is caused by the fluid inside your ear moving around. Sometimes, people simply lose their hearing as they get older. They are able to wear hearing aids, which increase the sound so that they can hear more easily. If people lose their hearing completely, they might need to learn sign language. This is a way of talking by using your hands to create different shapes and different patterns instead of saying words.

Some animals use their super hearing to their advantage. Bats use something called echolocation, which means that they make a sound and then listen for the echo to tell them where objects, including their prey, are. They are so good at this that they rarely miss and can hunt in total darkness. The giant wax moth has learnt to hear and recognise the bat's call so that it can dodge it and avoid being caught!

When it comes to amazing hearing, it is hard to ignore the elephant. Not only are its ears massive but its hearing is fantastic. Elephants can hear a thunderstorm from over 6 kilometres away!



Sense of Hearing Questions

1. What is the name for the part of the ear that people can see?

2. Where does the outer ear end?

3. Who had the strongest known ears?

4. Describe two ways in which someone who has lost their hearing can be helped to communicate.

5. How do bats find their prey?

6. Why do you get dizzy?

7. Name the three tiny bones in the middle ear.

8. Do you think it would be difficult to learn sign language? Explain your answer.
