What is deafness?

There are around 50,000 deaf children in the UK.

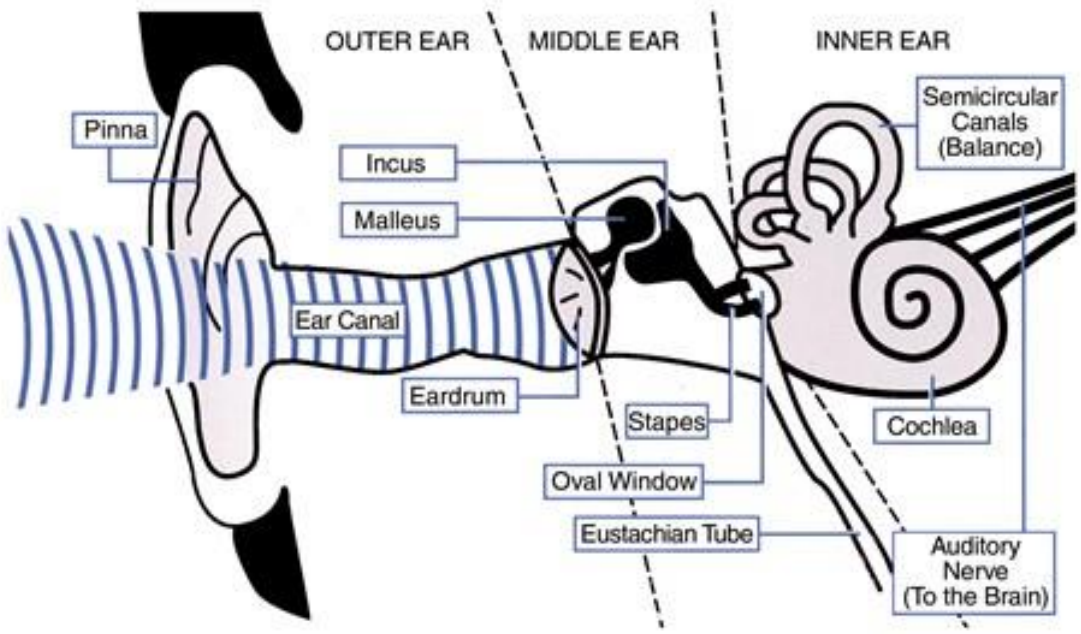
Deafness, or hearing loss, happens when one or more parts of the ear aren't working effectively. To understand this, it's useful to know how the ear works.

The ear has two main functions:

It receives sound and converts it into signals that the brain can understand.

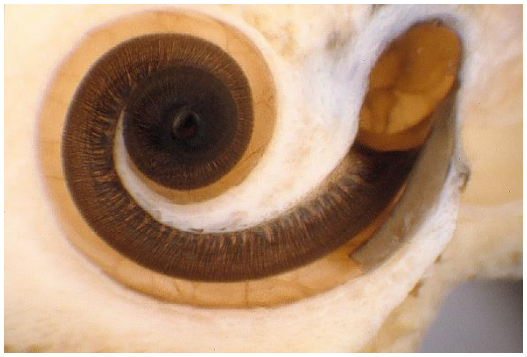
It helps us to balance.

The two functions are closely related.



The ear is the first part of the hearing system. The outside part of the ear (pinna) catches sound waves and directs them down the ear canal. The waves then cause the eardrum to vibrate.

These vibrations are passed across the middle ear by three tiny bones: the malleus, incus and stapes (sometimes known as the hammer, anvil and stirrup, known together as the ossicles). The bones increase the strength of the vibrations before they pass through the oval window into the cochlea.



The cochlea looks like a snail's shell. It's filled with fluid and contains thousands of tiny sound-sensitive cells. These cells are known as hair cells. The vibrations entering the cochlea cause the fluid and hair cells to move, much like the movement of seaweed on the seabed when waves pass over it.

As the hair cells move, they create a small electrical charge or signal. The auditory nerve carries these signals to the brain where they are understood as sound.

For an ear to work fully and pick up sound, all these parts must work well.

The main types of deafness

Sensorineural deafness, or nerve deafness as it's sometimes called, is a hearing loss in the inner ear. This usually means that the cochlea isn't working effectively. Sensorineural deafness is permanent.

Conductive deafness means that sound can't pass efficiently through the outer and middle ear into the inner ear. This is often caused by blockages such as wax in the outer ear, or fluid in the middle ear (glue ear). Glue ear is a very common condition, especially in pre-school children. Conductive deafness is usually temporary, but it can be permanent in some cases.

It's possible for children to have a **combination of sensorineural and conductive deafness**. This is known as **mixed deafness**.

Deafness in one ear only is known as **unilateral deafness**, which can also be referred to as one-sided hearing loss or single-sided deafness (SSD).

Most deaf children can hear some sounds at certain frequencies and loudness, and with the use of hearing aids or implants they are often able to hear more sounds.

Dame Evelyn Glennie

Evelyn was born on 19 July 1965. She is a Scottish percussionist who tours all over the world performing as a soloist with a wide variety of orchestras and eclectic musicians. She conducts master classes, consultations and engages in motivational speaking. She is a leading commissioner of new works for solo percussion.

The indigenous musical traditions of north-east Scotland were important in her development as a musician. Her first instruments were the piano and the clarinet. Other influences were Glenn Gould, Jacqueline du Pré and Trilok Gurtu. She studied at Ellon Academy, Aberdeenshire and the Royal Academy of Music, London.

Evelyn has been profoundly deaf since the age of 12, having started to lose her hearing at the age of 8. This

does not inhibit her ability to perform. She regularly plays barefoot during live performances and studio recordings to feel the music.

Evelyn Glennie contends that deafness is largely misunderstood by the public. She explains that she taught herself to hear with parts of her body other than her ears. She believes that hearing a sound and feeling a vibration are the same thing. She says, 'I spent a lot of time in my youth (with the help of my school percussion teacher Ron Forbes) refining my ability to detect vibrations. I would stand with my hands against the classroom wall while Ron played notes on the timpani (timpani produce a lot of vibrations). Eventually I managed to distinguish the rough pitch of notes by

associating where on my body I felt the sound with the sense of perfect pitch I had before losing my hearing. The low sounds I feel mainly in my legs and feet and high sounds might be particular places on my face, neck and chest'.

'There is one other element to the equation: sight. We can also see items move and vibrate. If I see a drumhead or cymbal vibrate or even see the leaves of a tree moving in the wind then subconsciously my brain creates a corresponding sound. An electrical signal is generated in the ear and various bits of other information from our other senses all get sent to the brain which then processes the data to create a sound picture'.

Evelyn summarises, 'my hearing is something that bothers other people far more than it bothers me. There are a couple of inconveniences but in general it doesn't affect my life much. For me, my deafness is no more important than the fact I am female with brown eyes. Sure, I sometimes have to find solutions to problems regarding my hearing and its relation to music, but so do all musicians.'

Rose Ayling-Ellis

Rose Lucinda Ayling-Ellis (born 17 November 1994) is a British actress. Deaf since birth, she is a British Sign Language user. She is known for playing Frankie Lewis in the BBC soap opera *EastEnders* (2020–present). In 2021, she became the first deaf contestant on *Strictly Come Dancing*, and with professional Giovanni Pernice, won the nineteenth series.

She has taken part in a number of stage productions, including *Mother Courage* (Royal Exchange); *Faith, Hope and Charity* R&D (National Theatre) and *Herons Workshop* (Lyric Hammersmith). Her television credits include *Summer of Rockets* and *Casualty*. She appeared in *The Vamps* music video for 'Middle of the Night', and in

the short film *Almost* with Vilma Jackson. Since 2020, Rose has been playing Frankie Lewis in the BBC soap opera *EastEnders*. Her character was originally written by the deaf journalist and scriptwriter Charlie Swinbourne.

Rose Ayling-Ellis was instrumental in creating a powerful change in attitudes through the beauty of her dancing. Rose Ayling-Ellis winning *Strictly Come Dancing* is a landmark moment for the deaf community.

People often say to deaf people: "Oh, you can't do that – because you're deaf." Rose has shown that deaf people can do anything – dancing, acting and plenty more.

Why shouldn't they? Rose said on the show, "it's a joy to be deaf". She feels it is a joy to be part of the wonderful community and to use British Sign Language (BSL) – both to communicate with other deaf people but also, as her dance partner, Giovanni Pernice, has shown by embracing BSL, as a way for deaf and hearing people to work together.

The deaf community's ideal vision of a perfect world is hearing people communicating with them using sign language, while employing all aspects of deaf awareness: eye contact and clear lip patterns, too.

The BSL have witnessed a surge in interest in learning sign language since Rose appeared on Strictly. It's amazing that one person has raised the profile so effectively.

Rose Ayling-Ellis also called for BSL to be given legal status in the UK. Although BSL was recognised as a language by the government in 2003, it had no legal protection. Rose Ayling-Ellis spoke to Labour MP Rosie Cooper about her Bill in Parliament, which aimed to declare BSL as an official language of the UK. Together they successfully campaigned for this to happen!

Here at Kendrick School, we are lucky enough to have our own inspiring student who is deaf and wears cochlear implants – **Ananya**, who is currently in Year 8.

Just like Rose Ayling-Ellis, **Ananya** has not let her hearing impairment stop her from living life to the full and achieving many wonderful things.

Ananya likes to play netball and the piano. She also agreed to be the subject of this book which explains to other children than Ananya is more than 'just a deaf girl'. The book could also inspire other children who are deaf to go on and achieve their goals and not let their hearing impairment stop them.