



Ears - How do ears work?

Fact

- Your outer ear (the part you can see on the side of your head) works as a funnel receiving sound from the outside world and directing it into your inner ear.
- Sounds travel as vibrations through air, liquid and bone. When a sound vibration has passed through your eardrum it reaches your inner ear and it makes the small bones inside your ear vibrate.
- That vibration passes through those tiny bones into a liquid filled space with tiny sensitive hairs in your cochlea (cock-lee-ah).
- Those tiny hairs are nerves, which pick up the vibrations and send the information to your brain – especially to tell you about balance.

Do you know

- The smallest bone in your body is in your ear.
- The inner parts of your ear are deep inside your head just behind your eyes.
- The cochlea inside your ear looks like a snail shell – but it isn't one!
- The three bones inside your ear are called the Hammer, Anvil and Stirrup (they look like those things too)

Experiments you can do

Direct the sounds

Listen to the sounds around you carefully. Then place your hands over your ears. What does that do to the sound? Now cup your hands behind your ears. What does that do to the sound? Does it make it harder to hear things behind you? What happens to the sound when you cup your hands in front of our ears?

Can you explain how we hear sound vibrations when we hold a shell up to your ear?

Other Investigations

Sneaky sounds Game.

This game is best played on a wooden floor because it makes it harder for the sneaker. Have someone sit in a chair at one end of the room facing the wall. Blindfold them and put a set of keys under the chair.

Have someone try to sneak up on the person and take the keys without making any sound. When the person in the chair hears a sound, they need to point in the direction they think the sound is coming from. If they point to the right direction the sneaker becomes the person in the seat.