

The sense of hearing 1

Your ears

1. What are some of the sounds you would hear if you were camping on a quiet night?
2. How would you feel if you couldn't hear anything?

Sound

When you listen to something the sound comes through the ear and it hits the eardrum, then it goes to your brain. Your brain quickly thinks about it and then you will know what to do.

Sound is made by something that vibrates. Vibrate means to move quickly backwards and forwards.

Science experiment:

If you stretch a rubber band between your hands and pluck it, the rubber band will move back and forth and make a humming sound.

The hum you hear comes from the vibrations of the rubber band. If you touch the rubber band while it is still humming the hum will stop. This is because you have stopped the vibrations.

Place your finger on your throat and hum. You will feel the vibrations.

Sound vibrations travel to your ears through the air around us. Sound vibrations traveling through the air are called sound waves.

3. What are vibrations?
4. How do sound vibrations get to our ears?

The sense of hearing 2

Questions and answer about ears

Work with a partner. One can ask the questions. The other can guess the answers.

Where are the tiniest bones found in our bodies?

Answer: in our ears

Why do our ears have flaps on the outside?

Answer: They are sound collectors.

Try cupping your hands around your ear while you are listening to something. You will make a larger sound collector and hear the sound more clearly.

Which animals have bigger sound collectors than humans?

Answer: many animals, e.g. elephant

What is the inside of your ear like?

Answer: It is like a set of rooms with entryways which take twists and turns.

What is the entry way closest to the outside?

Answer: the ear canal

What is in the middle of your ear?

Answer: an ear drum

How does an ear drum help us to hear?

Answer: It has a thin piece of skins stretched across it that vibrates, (shakes) when the sound reaches it.

The sense of hearing 3

How do we hear?

There are hairs in our ears that are connected to nerves. The nerves carry the sound to the brain. That's when we 'hear' sound.

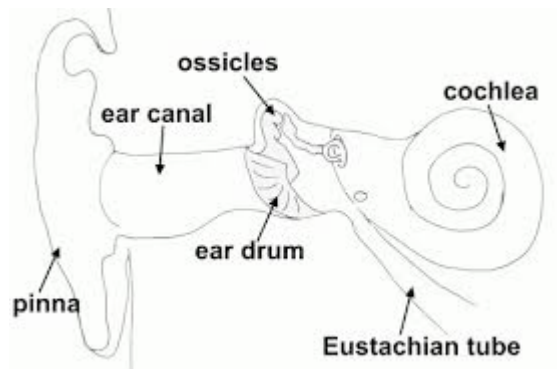
Why should you never poke anything into your ear?

It could get stuck in your ear or you could make a hole in the ear drum. Then it couldn't vibrate properly and you couldn't hear properly.

Why do we have two ears?

The sound from one direction reaches one ear a tiny bit sooner than the other. Our brain tells us which direction the sound has come from. Then we can turn in that direction.

What does the inside of the ear look like?



The sense of hearing 4

Try making some musical instruments:

- Rubber bands over a small box (a guitar)
- A balloon stretched over a tin can (a drum)
- Water in glasses, each glass holding a different amount of water. Hit the glasses with a pen.
- A cardboard tube that you can blow into

Which parts of these musical instruments are vibrating to make sounds?

