

# Introduction to sense: Hearing

Humans and animals have many things in common, our sense of hearing is really important to help us **communicate with others** by listening to ideas, opinions and questions, as well as helping to keep us **safe**.

To hear we use **sound waves**, like this one:



These waves travel through the air and we hear them by using our ears.

## How we hear:

The human ear has a part outside the body (the part you can see) called the **pinna**.

The **pinna** guides the waves inside to the **ear drum** in the **middle ear**.

The sound is made LOUDER in the **ear drum**.

The sound waves then travel to the **inner ear** where they move into liquid form.

The liquid turns into **electrical impulses** for the brain to make sense of what has been heard.



Not all ears are alike. This rabbit's ears look very different to our ears, they are this **special shape** to help them to hear differently to us...

A rabbit's ears are really **long** and **curved** to help pick up all the sound waves and direct them into the middle ear, like a **satellite dish**.

Rabbits can **move** their ears by tilting and turning them to find out **where sounds are coming from**. We aren't able to do this as our ears cannot move!



## Activity time!

You can make your ears work in a similar way to a rabbit's by using your hand to make a cupped shape behind your ear, just like this.



**Try it** and think carefully about what sounds you can hear in the room! Do the sounds seem different now?

### Checkpoint! What have you learnt so far?

What is the **outside of the ear** called?

.....

What does the **middle ear** do?

.....

What happens to the **sound waves** when they travel through the **inner ear**?

.....



### Challenge: Seek a Sound!



You will need: Access to different rooms in your home, a blindfold

1. Explore your home and find four or five **different sounds**. See if there are any objects you can use to make a sound by tapping, dropping, hitting or scratching.
2. Once you have found your sounds, use a **blindfold** to cover the eyes of a family member (or someone else who can help you) while they sit in the middle of the room.
3. Make the first sound and ask the other person to **guess what is making the sound**.
4. **Repeat** this for the rest of the sounds, how well did they do?

*You could try this a second time, but this time just using your voice to make different sounds.*

## Questions to think about

Why is it so **important** for animals to **hear really well**? How can this help them to stay **safe**?

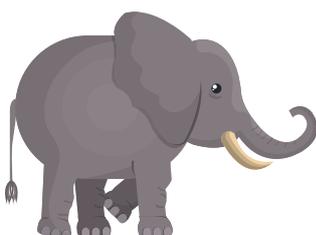
Can you think of any **other reasons** why sound is important to animals?

What happens if humans **cannot** hear? What happens if animals **cannot** hear?

## Did you know?

A **dog's** hearing is so **sensitive** they can even **tell the difference** between their owner's **footsteps** and a stranger's!

This is how they know you're coming home so they can greet you at the door.



An **elephant's** hearing is so **sensitive** they can hear **special sound waves** called infrasound - humans cannot hear these waves.

Elephants use **infrasound** to listen to the movement of the clouds to know when it's going to **rain!**