TOPIC: OUR SENSE ORGANS

FACTS/TIPS

The Ear

- The organ of hearing sound is the **Ear**.
- The ear functions mainly to help us **hear** and to maintain **balance**.
- The ear is made up of **three** main parts called:
  1. The **outer** ear
  2. The **middle** ear
  3. The **inner** ear

- The parts of the ear work together to receive sound waves from the air to make hearing possible.

Parts of the Ear

<table>
<thead>
<tr>
<th>Section</th>
<th>Parts</th>
<th>Function</th>
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<tbody>
<tr>
<td>The outer ear</td>
<td>- auricle (pinna),</td>
<td>collects sound waves and guide them to the tympanic</td>
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<td></td>
<td>- external auditory</td>
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<td>The middle ear</td>
<td>The inner ear</td>
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<td>canal (ear canal)</td>
<td>- malleus (hammer),</td>
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<td></td>
<td>- incus (anvil),</td>
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<td></td>
<td>- stapes (stirrup)</td>
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<td>NB: these 3 bones</td>
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<td>collectively are</td>
<td>conduct sound from</td>
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<td>called the auditory</td>
<td>the eardrum or</td>
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<td>ossicles</td>
<td>tympanic</td>
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<td>membrane to the</td>
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<td>inner ear.</td>
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<td>They also make</td>
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<td></td>
<td>vibrations stronger.</td>
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<td>memran. (eardrum)</td>
<td>- vibrate and sends</td>
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<td></td>
<td>the auditory nerve to</td>
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<td></td>
<td>the brain.</td>
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**Diagram of the Human Ear**
How it works

1. Sound waves are directed by the pinna (auricle) into the ear canal.
2. The sound waves travel to the eardrum which separates the outer and inner ear. The eardrum begins to vibrate.
3. This causes the three bones in the middle ear (ossicles) to vibrate.
4. This sends pressure waves through the cochlear fluid and causes hair cells in the cochlea to vibrate. This sends information along the auditory nerve to the brain.
5. The brain then translates the information into what we hear.

Did you know?
➢ The ossicles are the smallest bones found in our body!
➢ The Eustachian tube is responsible for the popping sensation you can feel when taking off in an aeroplane!
➢ When sound is reflected we hear an echo!

**Care of the Ear**

Our ear and its parts are important, we must take great care of them.

- Never push things in your ears this can damage the ear drum and lead to deafness.
- Hairs in the ear keep out dirt. The outer end of the ear canal can be cleaned by cotton swabs or ‘q-tip’.
- Avoid too loud sound as they can damage the ear drum and lead to deafness.
- Wax is produced in the ear canal to clean and moisten it. However excess wax can cause partial deafness or ‘buzzing’ in the ear. This can be removed by a doctor or nurse.

**The Nose**

- The organ of the sense of smell is the **Nose**.
- It is also called the **olfactory organ** and allows us to smell. The nose also supports our sense of taste and is vital for respiration.

**Parts of the Nose**

- The nose has two holes called **nostrils**.
- The nostrils and the nasal passages are separated by a wall called the **septum**. It runs deep inside your nose, close to your skull, your septum is made of very thin pieces of bone.

- Closer to the tip of your nose, the septum is made of **cartilage**, which is flexible material that's firmer than skin or muscle. It's not as hard as bone, and if you push on the tip of your nose, you can feel how wiggly it is.

- Behind your nose, in the middle of your face, is a space called the **nasal cavity**. It connects with the back of the throat. The nasal cavity is separated from the inside of your mouth by the palate (roof of your mouth).

**Diagram of the nose**

![Diagram of the nose](image)

**How it works**

1. Odours enter the nostrils.
2. The odours then move along the nasal passages to the olfactory bulb (nerve fibres).
3. The receptors located on the olfactory bulb become activated.
4. Olfactory receptors send information to the brain.
5. The brain then translates the information into the odours we smell.

More about the nose
- The mucus in your nose helps to trap dust, germs and small particles.
- Hair like structures in the nose called cilia helps to get rid of it.

Other important jobs your nose does.
- Provides an air passage for respiration.
- Filters the air breathed in and out.
- Moistens and warm air.
- It’s a resonating chamber for sound waves (hold your nose closed and listen to how you sound).
- The nose works together with the tongue to help you taste.

ON YOUR OWN
1. Name the pair of holes on your nose.________________________
2. The wall which separates your nasal passages is made up of __________________________

3. Explain what olfactory bulb receptors do. __________________________________________

4. What moves back and forth to move mucus out of the sinus? __________________________

5. Name three internal parts of the nose _____________________________________________

6. What is the flexible material found in your nose tip called? __________________________

7. Name the part of the ear that you can pierce. ______________________________________

8. Where is the eardrum located? __________________________________________________

9. Which part of the ear takes sound waves and turn them into vibrations? ______________

10. Name the smallest and most delicate bones found in the ear. ________________________

11. Which bone is attached to the eardrum in the ear? _________________________________
12. Explain what happens in the inner ear.

HOMEWORK

1. Here is a drawing of the human ear, fill in the missing labels.

2. List two functions of the ear.
   (i) _______________________________________
   (ii) ______________________________________
3. State two safe ways to take good care of your ear.
   (i) ______________________________________________________________________
   (ii) ______________________________________________________________________

4. Explain one way by which we may cause harm to our ear.
   ______________________________________________________________________

5. Draw and label the nose to show the interior parts.

6. List three additional functions of your nose.
   (i) ______________________________________________________________________
   (ii) ______________________________________________________________________
   (iii) ______________________________________________________________________

7. What happens to information sent to the brain by the nose?
   ______________________________________________________________________