



HEARING HONOUR WORKSHEET (with Answers)

Completed by:

Date Started: / /

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1. How many parts of the outer ear are there? How do they function?

Part of outer ear	Functionality
1. Auricle (Pinna)	The pinna catches sound waves and directs them through the auditory canal.
2. Auditory canal	The auditory canal functions as an entryway for sound waves, which get propelled toward the tympanic membrane, also known as the eardrum.
3. Tympanic membrane (Eardrum)	The eardrum is a thin flap of skin that is stretched tight like a drum and vibrates when sound hits it.

2. Complete the following activity. Be sure to record your finished product on camera.

MAKE A MODEL EARDRUM (Also known as the tympanic membrane)

You will need: Plastic Wrap (cling film), container with wide opening, uncooked rice (or any other small grain), tin cookie sheet.

This activity will help you to understand how sound travels through the air. Just stretch the piece of plastic wrap over the large container or pot. Make sure the plastic wrap is stretched tightly over the container. The plastic represents the eardrum. Place about 20-30 grains of uncooked rice or grains on top of the plastic wrap. Now you need a noise maker, a tin cookie sheet or baking tray works well. Hold the cookie sheet close to the plastic sheet to create a "BIG BANG" noise and watch the rice grains jump. The "big bang" produces sound waves (changes in air pressure) that cause the plastic sheet to vibrate which

causes the rice grains to move. Sound waves vibrate the eardrum in much the same way.

3. What are the '**auditory ossicles**' and name their parts.

- a. the hammer (malleus)
- b. the anvil (incus)
- c. the stirrup (stapes)

4. What is the function of the middle ear?

It forms a short chain that crosses the middle ear and transmits vibrations caused by sound waves from the eardrum membrane to the liquid of the inner ear.

5. Is the Eustachian tube a part of the middle ear? What is its function?

The Eustachian tube is part of the middle ear and has three primary functions:

- Ventilation of the middle ear so that ambient pressure and middle ear pressure are similar;
- Protection of the middle ear from reflux of nasopharyngeal secretions and bacterial flora; and
- Drainage of secretions from the middle ear into the nasopharynx.

6. Which is true about the inner ear and balance?

- a. The semi-circular canals detect linear motion
- b. The utricle and saccule detect linear motion
- c. The cochlea detects linear motion
- d. The utricle and saccule detect rotary motion

7. Select the statements which are TRUE for the Cochlea.

- a. It is found in the outer ear
- b. It makes vibrations
- c. It turns vibrations into electrical signals
- d. Signals are sent from the cochlea to the auditory nerve
- e. C and D

8. Mention the steps to good ear hygiene

- Soften the wax.
- Use an eyedropper to apply a few drops of baby oil, mineral oil, glycerine or hydrogen peroxide in your ear canal.
- Use warm water. After a day or two, when the wax is softened, use a rubber-bulb syringe to gently squirt warm water into your ear canal.
- Dry your ear canal.
- Do not stick any objects in your ears.

9. What are some ways which can help you to protect your ear from damage or hearing loss?

- Avoid loud noises. The best way to avoid noise-induced hearing loss is to keep away from loud noise as much as you can.
- Take care when listening to music. Protect your hearing during loud events and activities.
- Take precautions at work.
- Get your hearing tested.
- Noise-cancelling headphones, safe environment, ear plugs.

10. Why is hearing very important in life? Do humans hear better or worse as they get older?

- The ability to hear enables us to connect to the world for many particularly important, even vital, reasons.
- Hearing connects us to people enabling us to communicate in a way that none of our other senses can achieve.
- Although it's true that the greater the hearing loss, the more severely our ability to communicate is affected, the impact on daily life of milder forms of hearing loss should never be underestimated or ignored.
- Hearing is the first part in the process of listening.
- Human's hearing generally get worse as they get older.

11. **Complete the following activity. Be sure to record your results on the worksheet.**

You will need: Tape measure/metre stick, piece of paper, pen/pencil, a field/open area.

How to play: One person stands at one end of an open area (preferably outside) and someone else calls out a word (**do not shout**) and, gets further and further away until the other person cannot hear the word anymore. Count how many metres the person was placed away from the other person until they could not

hear anymore. Write down the score on a piece of paper and, do it for every member of the family then, at the end see who has better hearing.

12. Select all the statements which apply to a 'sound source'.

- a. An object vibrates
- b. Vibrations vibrate air particles
- c. The brain
- d. A drum
- e. A, B and D
- f. A, C and D

13. What is a sound wave caused by?

- a. A moving flow of Electrons
- b. Pitch
- c. Volume
- d. Vibration of air particles
- e. All the above
- f. A and C

14. Complete the following activity. Write down your observations below, explaining the differences in the sound.

You will need: Pencil and paper.

Collect all things you have at home which can help you to differentiate sounds.

Example, a glass of water. Take 3 glasses of water, put water in one at a low level, one at the middle and a full glass of water. Take a spoon or anything which can help you to hear the sound from each glass and tap the side of each glass.

Observe the differences in the sound that comes off the glass.

Glass	Level of water	What does it sound like?
1	Low	
2	Half full	
3	Full	



15. Find at least four (4) Bible texts that specifically mention hearing or the ear.

- Jeremiah 28:7
- 1 Corinthians 12:17
- Ezekiel 10:13
- Job 33:8
- Ephesians 4:29
- Proverbs 20:12
- Matthew 20:24
- Acts 9:7
- Matthew 11:15
- James 1:19

16. Summarise in your own words one (1) Biblical story that refers to the sense of hearing.

- Jesus healing the deaf-mute man - Mark 7:31-37
- Story of Saul disobeying – 1 Samuel 15

Assessed By:
(Full Name & Rank in Block Letters)

Assessor's Signature: _____ Date: / /

