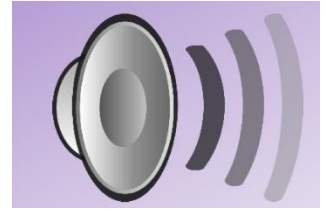


Race to the Brain Game

Hearing & Hearing Loss



ANATOMY AND THE HEARING PROCESS

#	Level 1	Level 2	Level 3
1.	What is the part of the ear on the side of your head called? Pinna	Can you hear with no pinna or ear canal? Yes	Having an abnormally small pinna is called _____. Microtia
2.	On the game board, point to the ear canal.	What does the ear canal do? Sends sound toward the eardrum	Cerumen is another name for _____. Earwax
3.	What can cause hearing loss in the outer ear? Earwax, deformity, blockage (Lego, bean)	If someone had no ear canal (all bone), would they have: a. normal hearing b. no hearing c. a conductive hearing loss d. a sensorineural hearing loss	If someone had no ear canal (all bone), it is called _____. Atresia
4.	What happens to the eardrum when sound waves hit it? Vibrates	What fills the space behind the eardrum? a. Fluid b. Air c. Skin	What is another name for the tympanic membrane? Eardrum
5.	Point to the middle ear bones on the game board.	What is the name for the group of middle ear bones? Ossicles	Point to the smallest bone in the human body. It is called the _____. Stapes
6.	What are the names of each of the middle ear bones? Hammer, Anvil, Stirrup / Malleus, Incus Stapes	Point to the <i>ossicles</i> on the game board. They are located in the _____. Middle ear	What is the function of the ossicles? To transmit sound vibrations from the eardrum to the cochlea
7.	What is the snail-shaped structure called? Cochlea	Where are the hair cells located? Inner Ear- in the Cochlea	What is the cochlea filled with? Fluid
8.	On the game board, point to where the hair cells are located. Now move like the hair cells.	Can hair cells be damaged? If so, what happens if they are damaged? Yes. Hearing loss.	What are the structures in the cochlea that move in fluid called? Hair Cells

9.	Point to the auditory nerve on the game board.	How does sound get from the cochlea to the brain? Auditory Nerve	The auditory nerve is a bundle of _____ that carries hearing information between the cochlea the brain. Nerve fibers
10.	Our vestibular systems help to control our balance. The balance system is in our: a. ears b. eyes c. feet	Point to the location in the ear where the vestibular system located.	What is the primary vestibular structure called? Semicircular canals
11.	What happens to sound in the outer ear? a. It floats around the ear b. It is collected and travels down the ear canal c. It bounces off of the eardrum	A conductive hearing loss is caused when something is wrong in the _____. Outer or middle ear	A _____ hearing loss may be able to be medically treated and improve. Temporary conductive hearing loss.
12.	A sensorineural hearing loss is caused when something is wrong in the _____. Inner ear	A permanent hearing loss caused by a difference in the cochlea is called a _____ hearing loss. Sensorineural	Potential causes of sensorineural hearing loss include _____. Genetics, structural differences in the cochlea, ototoxic drugs, trauma.
13.	Is it possible for someone to have hearing difficulties even if their outer, middle and inner ears are hearing 'normally'? Yes	On the game board, point to where the problem area would be for someone who has a 'cortical' or 'central' hearing difficulty.	A type of hearing difficulty that occurs past the cochlea is called _____. Cortical HL, ANSD or APD
14.	True or False: Earwax should always be cleaned out with a Qtip. False	True or False: Earwax can collect in the middle ear. False	True or False: Cleaning ears with Qtips could cause very severe infections. True
15.	True or False: If you have an earache it is most likely due to an ear infection. True	True or False: Ear infections can cause a conductive hearing loss. True	True or False: A tympanic membrane perforation can be caused by ear infections. True
16.	What are some loud sounds that could cause hearing loss? Fire crackers, guns, loud toys.	Is a hearing loss caused by listening to loud music always permanent? Permanent or temporary.	Explain how high levels of noise cause hearing loss. Damage to hair cells in high pitch region of the cochlea.

17.	On the board show how sound travels from outside of the head to the brain.	On the board show and describe the ways sound travels to the brain. Through ear or head bones.	Describe the sequence of hearing. Sound waves enter the outer ear and travel through the ear canal, which leads to the eardrum, which vibrates in response to the soundwaves. The bones in the middle ear send the sound vibrations to the cochlea, a snail-shaped structure filled with fluid, in the inner ear. The hair cells in the cochlea send electrical impulses along the auditory nerve which the brain then interprets as sound.
18.	A genetic hearing loss means that your _____ might have a similar hearing loss. a. Teacher b. Family member(s) c. Dog	The most common cause of hearing loss is _____. Genetics	Describe what it means to have a genetic hearing loss. You inherit the trait for hearing loss from one or more family members.
19.	Do some medications cause hearing loss? Yes	Which part of the ear can be damaged by some kinds of medications? Cochlea	What is ototoxicity? When certain drugs can cause damage to hearing ability.
20.	Can someone have a hearing loss in their middle ear and a hearing loss in their inner ear at the same time? Yes	Describe what it means to have a mixed hearing loss. When someone has a hearing loss in their outer or middle ear and inner ear at the same time.	If you have a permanent hearing loss, and then get an ear infection, what type of hearing loss would you have? Mixed
21.	True or False: It is possible to have normal hearing in one ear and no hearing in the other ear. True	True or False: Having normal hearing in only one ear is adequate for learning. False	What does it mean to have a unilateral hearing loss? Having hearing loss in only one ear.
22.	How old were you when you were found out that you had a hearing loss?	What kind of hearing loss do you have?	Describe your hearing history: hearing loss onset, diagnosis, treatments, etc.