

Special Senses Study Questions II

The EAR

Dr. J. Lim

1. The pinna is made of which form of connective tissue? _____
2. Name two characteristics of the external auditory canal that act to prevent foreign substances and creatures from reaching the middle ear?
3. Name the three parts of the inner ear.
4. The _____ is the first ear structure to vibrate in response to external sound waves.
5. The ossicles are located in the _____ ear.
6. Which ear structure acts to equalize middle ear air pressure with external air pressure (“popping”)? _____
This structure connects the middle ear with _____
7. Which two structures contact the malleus (hammer)? _____
Which two structures contact the stapes (stirrup)? _____
8. Fluid movement in the cochlea results in the stimulation of the hair cells in the organ of _____.
9. The hair cells of Q7 are examples of which type of sensory receptor? _____
10. The bending of these hair cells results in the production of _____.
11. Name the two parts of the inner ear responsible for balance (equilibrium).
12. Dynamic equilibrium involves which types of body movements? _____
13. Identify the structure that monitors static equilibrium. _____
Describe how static equilibrium is monitored.
14. The loops of the semicircular canals are oriented at ____ degree angles in order to monitor all potential angles of movement.
15. Loss of hearing due to a ruptured eardrum is a form of _____ deafness.
16. The _____ lobe of the brain is responsible for processing auditory input.
17. The _____ lobe of the brain is responsible for understanding auditory input.
18. Is equilibrium a general or special sense? _____
19. Are your two pinnas identical or dissimilar?
How is this an advantage?
20. Name the structure that monitors dynamic equilibrium. _____

Special Senses Study Questions II KEY

The EAR

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1. The pinna is made of which form of connective tissue? **cartilage**
2. Name two characteristics of the external auditory canal that act to prevent foreign substances and creatures from reaching the middle ear?
wax and hair
3. Name the three parts of the inner ear.
cochlea, vestibule and semicircular canals
4. The **eardrum (tympanic membrane)** is the first ear structure to vibrate in response to external sound waves.
5. The ossicles are located in the **middle** ear.
6. Which ear structure acts to equalize middle ear air pressure with external air pressure (“popping”)? **auditory/eustachian tube**
This structure connects the middle ear with **the back of the throat**
7. Which two structures contact the malleus (hammer)? **eardrum and incus (anvil)**
Which two structures contact the stapes (stirrup)? **incus (anvil) and cochlea**
8. Fluid movement in the cochlea results in the stimulation of the hair cells in the organ of **Corti**.
9. The hair cells of Q7 are examples of which type of sensory receptor? **mechanoreceptor**
10. The bending of these hair cells results in the production of **a neural impulse**.
11. Name the two parts of the inner ear responsible for balance (equilibrium).
vestibule and semicircular canals
12. Dynamic equilibrium involves which types of body movements?
angular or rotational body movements
13. Identify the structure that monitors static equilibrium. **vestibule**
Describe how static equilibrium is monitored.
A change in head position with respect to gravity causes the otoliths and gelatinous material to move. This cause the hair cells to be bend and produce a neural impulse
14. The loops of the semicircular canals are oriented at **90** degree angles in order to monitor all potential angles of movement.
15. Loss of hearing due to a ruptured eardrum is a form of **conduction** deafness.
16. The **temporal** lobe of the brain is responsible for processing auditory input.
17. The **frontal** lobe of the brain is responsible for understanding auditory input.
18. Is equilibrium a general or special sense? **special**
19. Are your two pinnas identical or dissimilar? **dissimilar**
How is this an advantage?
Receive differing auditory inputs
20. Name the structure that monitors dynamic equilibrium. **semicircular canals**