STRUCTURE OF THE HUMAN EAR

Label the parts of the ear on the diagram below.

a. auditory canal
b. eardrum
c. hammer
d. anvil
e. semicircular canals
f. cochlea
g. auditory nerve
h. Eustachian tube
i. stirrup
j. earlobe
k. oval window

Fill in the blanks with the correct answers.

Sound waves beat against a large membrane of the outer ear called the eardrum or tympanic membrane. In the middle ear, these vibrations are transferred by the three small bones, hammer, anvil, and stirrup, which increase the force of the vibration. The stirrup presses against the oval window, which is smaller than the tympanic membrane. The Eustachian tube connects the throat to the middle ear and serve to equalize air pressure. Hearing actually takes place on the other side of the oval window, in the inner ear. The fluid-filled chamber of the inner ear is called the cochlea. It accepts the wave motion that then travels through the vestibular and tympanic canals. Where the sound waves beat against the sides of the canals, hair cells bend and neurons transmit impulses. The auditory nerve carries this information to the brain where it is interpreted.

The upper part of the inner ear contains three semicircular canals. These are positioned at right angles to each other and are filled with fluid. The semicircular canals help to maintain balance.