

IV. Hearing

HEARING

1. Describe the **function** (not the definition) of each of these ear structures in one sentence or less.
 - a. Eustacean tube-
 - b. Pinna (auricle)-
 - c. External Auditory Meatus-
 - d. Tympanic membrane-
 - e. Ossicles (malleus, incus, stapes)-
 - f. Cochlea-
 - g. Semicircular canal-

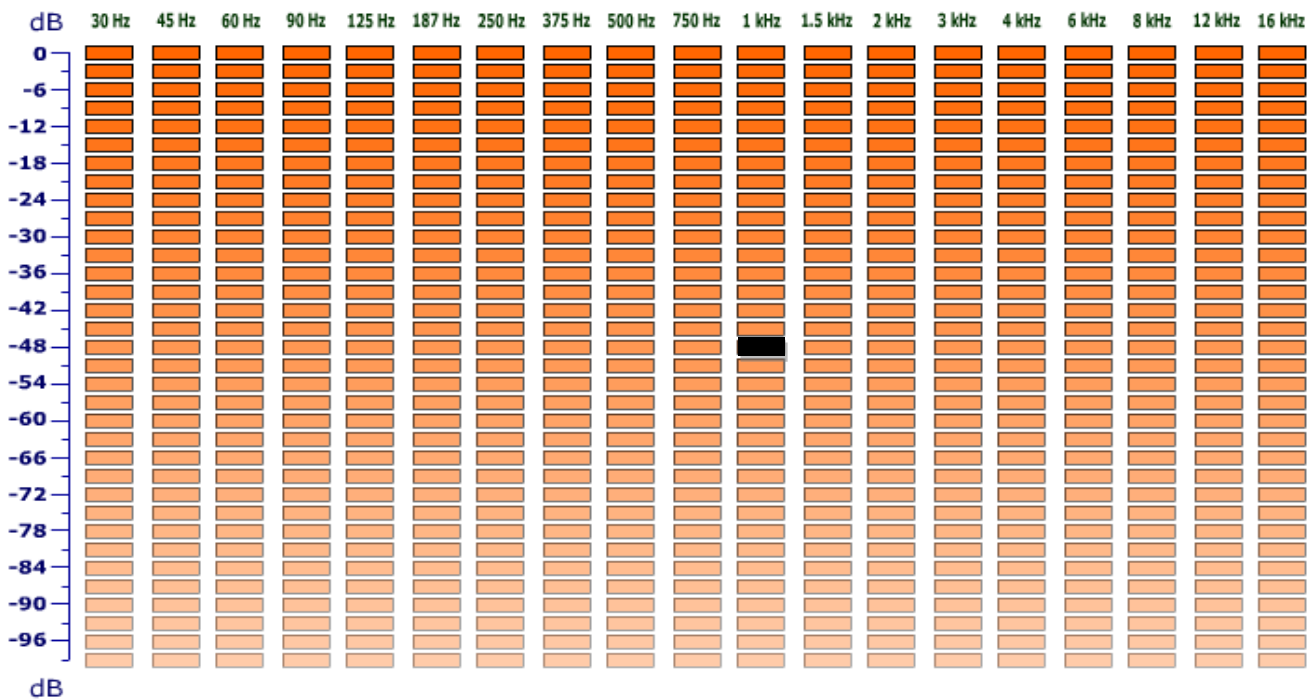
1. Hearing Threshold (maximum frequency)

Left Ear _____ Hz Age Equivalent _____

Right Ear _____ Hz Age Equivalent _____

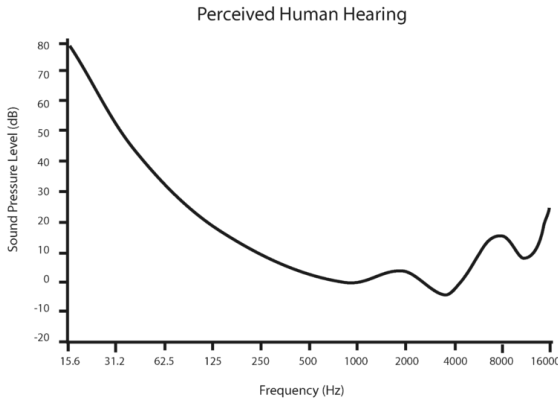
2. Relative Sensitivity

Source: <http://www.phys.unsw.edu.au/~jw/hearing.html>



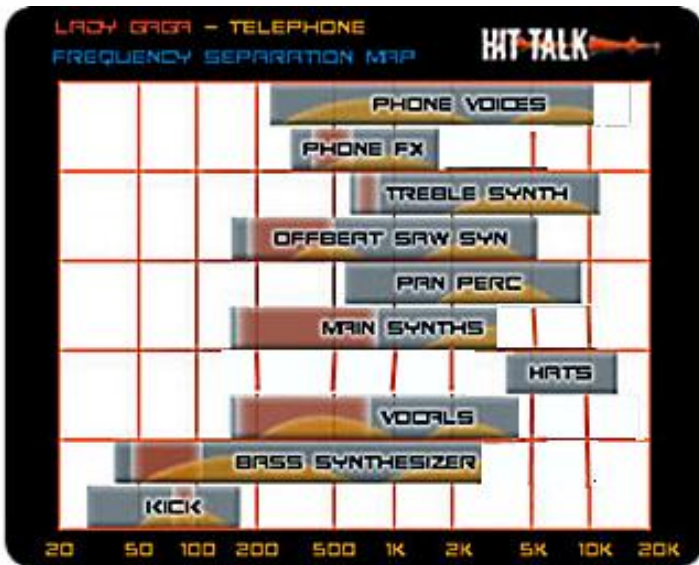
Questions:

1. According to your data, what frequency are you the most sensitive to? What are you least sensitive to?



On the left is the "Normal" hearing response curve. Ignore the scale on the y axis, they are different units than yours. The higher the line, the more you needed to boost the volume and therefore the less sensitive you are to that frequency and vice versa.

2. Compare your hearing curve to that line. Are you unusually sensitive or insensitive to any particular frequencies? Is your line very different in any areas from "normal"?



This chart is from a website on digitally mixing music tracks. It happens to be Lady Gaga's "Telephone" (sorry). It shows the different frequencies of all of the instruments, synthesized sounds and vocals in the track.

3. Which things would you be most sensitive to in this song mix?
4. Which things would you be most sensitive to in this song mix?

5. Why do you think that the human ear is not equally sensitive to all frequencies? (hint, it is the same reason why a great stereo has several different kinds of speakers to play all frequencies)