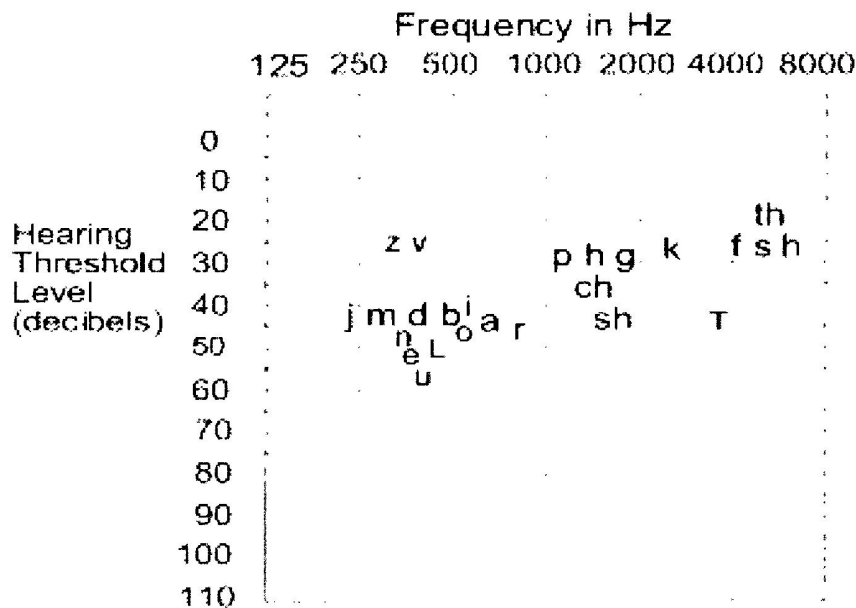


# Hearing Loss and Speech Intelligibility

In the audiogram below, you can see where our basic speech sounds lie .

**Frequency** = pitch ie low ➡ to high sounds. **Decibels** = loudness ie soft ↓ to loud sounds.



Two things are important to recognize. For the most part:

1. Consonants are higher pitched than vowels (they lie more to the right on the chart).
2. Consonants are spoken more softly than vowels (they lie higher on the chart, in the lower decibel ranges).

The great majority of people with hearing loss lose it in the higher frequencies, where the consonants lie. In addition, since consonants are spoken more softly, they tend to get drowned out in background noise. Consonants also convey most of the word information; they are much more important to speech intelligibility than vowels.

It is usually possible, for example, to figure out a word if you remove the vowels. But if you remove the consonants, you're lost.

Consonants also act as 'breakpoints', separating syllables and words from one another. If we can't hear the consonants clearly, the words seem to run together and people sound like they are mumbling. Since women and children have higher-pitched voices than men, it seems like they mumble more. In summary;

1. Consonants are more important than vowels in understanding speech.
2. Consonants are spoken more softly than vowels, and they tend to get drowned out in noisy environments.
3. Consonants are higher-pitched than vowels and most hearing loss occurs in the higher frequencies.