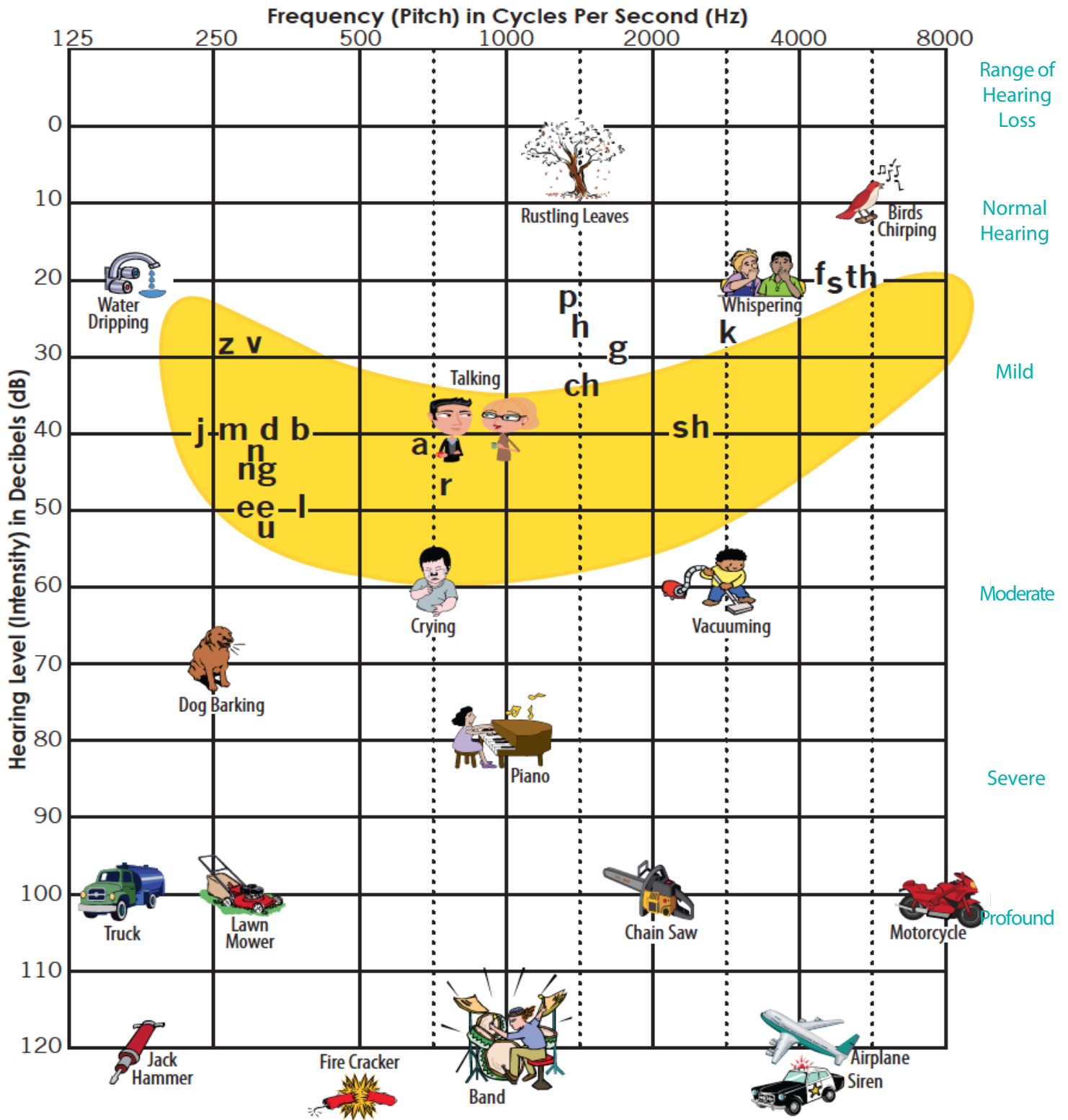




# Audiogram of Familiar Sounds



Adapted from: American Academy of Audiology, www.audiology.org and Northern, J.& Downs, M. (2002). Audiogram of familiar sounds; and Ling, D. & Ling, A (1978). Aural Habilitation.

# What Does My Child Hear?

## An Audiogram of Familiar Sounds

An audiogram is used to graph responses to sounds and speech during certain hearing tests. The examples on an illustrated audiogram show the types and levels of sounds. The area outlined on the audiogram showing most of the speech sounds is often referred to as the “speech banana” because of its shape on the graph. A parent can compare their child’s individual audiogram to the example to see what he is hearing.

Hearing levels are categorized to indicate the amount of speech and sounds that can be heard. General categories can be expressed as:

**Normal Hearing** Hears sounds of every pitch at a soft level

**Mild** Hears most speech sounds from a close distance

**Moderate** May hear vowel sounds (louder sounds) in speech

**Severe** May hear loud environmental sounds

**Profound** May hear extremely loud sounds

Test results are usually recorded on a non-illustrated audiogram. The numbers across the top of the audiogram indicate frequency (pitch) measured in “Hertz” abbreviated “Hz”. Testing is done across frequencies, but most speech sounds occur between low deep pitches (250 Hz) and high squeaky pitches (8000 Hz).

The numbers along the left side of the audiogram indicate the level of loudness measured in “decibels” abbreviated “dB”. They range from soft sounds such as whispers to loud sounds like sirens. The softest sounds a child hears at each frequency are plotted on the graph. Degrees of hearing are measured from -10 to 120 dB which is the range of hearing from normal to a profound loss.

There are specific audiogram symbols for the right and left ear, earphones or speakers, and hearing aids or cochlear implants. A “key” on the audiogram report explains what the symbols represent. These symbols are placed on the audiogram to show a person’s hearing levels. Speech and environmental sounds below those symbols are the sounds heard by the individual being tested.

The speech sounds on the audiogram are only approximations. Speech sounds become louder or softer (intensity) as the speaker and listener get closer or further away from one another. The low or high frequency (pitch) of a voice is different for a man, woman or child’s speech. The pictures on the audiogram show where a sound might typically happen. The actual sound for these examples could vary and occur across other nearby frequencies too. How a listener responds also depends on the loudness and distance from the sound.

Families new to hearing loss have much to consider and learn. The audiogram is one report for showing the sounds and speech most accessible to the child. After each test, families can ask for results to be explained again so that they can begin to understand their child’s audiogram and test recommendations. Parents can discuss with the audiologist possible next steps based on the audiogram results. The audiologist may prescribe listening devices (hearing aids or cochlear implants) to bring a child’s hearing levels as close as possible to the area of speech (the speech banana).

If a child gets a device, parents are anxious to know what he hears. Hearing with an implant or hearing aid can be demonstrated with other types of testing and computer checks. Sometimes listening results with a device are compared to unaided responses on an audiogram to demonstrate changes in hearing. A number or a level is just one measure but audiologists can help the family know what responses to expect.

Families often worry about how to communicate with their child while waiting to conduct further testing, explore services or obtain devices. The ways they were communicating, playing and interacting before the hearing test can continue! Soon parents can use more specific strategies after deciding about a listening device and language approach that fits their family’s culture and preferences.

When parents are familiar with their child’s audiogram, they can answer the question, “What does my child hear?” Then the family can ask many other questions to obtain more answers, information, services and support!