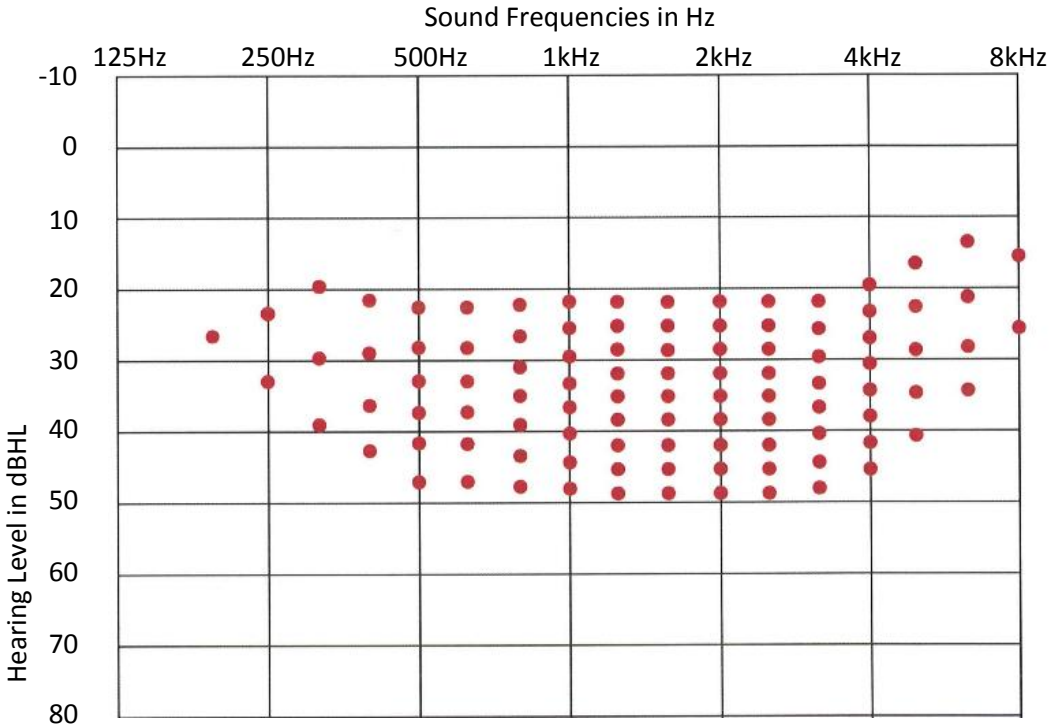
The New Count-the-Dot Audiogram

by Killion & Mueller: the Hearing Journal January 2010 vol 63 No 1 page 10.

Form devised (Jun 2014) by Peter Keen, Consultant Educational Audiologist, Keenhearing: peter.keenhearing@btinternet.com

Name	date of birth
Address	
School	**AI** of **%:**



This is the Speech Intelligibility Index (SII) based method of calculating the Articulation Index (AI). There are 100 dots indicating the importance of different frequencies and intensities for the perception of speech. Instead of the technically correct 'audible speech cues weighted by the importance function at each frequency', the authors recommend calling them 'audible dots'. This supersedes the first black and white (and grey) count-the-dot PTA from 1990 and has more dots above 4kHz now, acknowledging findings of more recent research. There is no copyright on this format (by original authors or Peter Keen) so that people can use it!

How to use it: Put the thresholds for both ears onto the Audiogram as normal. Count the dots below the (straight) lines joining the O and X symbols (use the better ear for each frequency). For Aided thresholds, add these to the audiogram using the A symbol, then count the audible dots. All thresholds must be in dBHL, so Aided results using a sound level meter must be converted – see chart below. The total 'audible dots' represent the percentage Articulation Index, so 65 audible dots = an AI of 65%. For children who are still developing their phonology and acquiring speech and language, Peter Keen recommends:

Good AI of 90% to 100% (still benefits from Radio Aid)

Satisfactory AI of 70% to 89% (must use Radio Aid in all learning situations)

Concern AI of 69% or less (advise hearing aid review)

Conversion chart: **dBA** (Sound Field, sound level meter reading) **to dBHL**. System developed by Dr Mike Nolan								
Frequency	250Hz	500Hz	1kHz	2kHz	3kHz	4kHz	6kHz	8kHz
	-17	-8	-10	-10	-11	-10	-15	-12
e.g. at 500Hz: **55dBA - 8dB** converts to **47dBHL**								