

The Ling-6 Sounds

The Ling-6 sounds represent various different speech sounds from low to high pitch (frequency). They help to test your child's hearing and check they have access to the full range of speech sounds necessary for learning language.

The Ling-6 sounds are shown below:

Ling-6 sound	example of word containing this sound:
m	<u>m</u> um
ah	ba <u>h</u>
ee	bee
oo	boo
sh	fi <u>sh</u>
s	s <u>pl</u> ash

Cochlear has developed a pack of Listening, Speech and Language cards which contain the Ling-6 sounds. You can download these cards from our website or ask your audiologist or therapist (or local Cochlear office) for a copy.

What is the Ling 6 sound test

The Ling-6 sound test was developed as a quick and easy test that parents and professionals can use to check their child has access to the minimal amount of sounds required to hear, understand and learn speech.

The test checks that your child can hear the sounds (detection) and in time, identify what the sound are (identification) across the different speech frequencies.

The test checks that your child's entire auditory system is working correctly – from the sound processor microphone to their brain.¹

Why These Six Sounds?

The Ling-6 sounds are the particular sounds that occur at particular speech frequencies or pitches. For example:

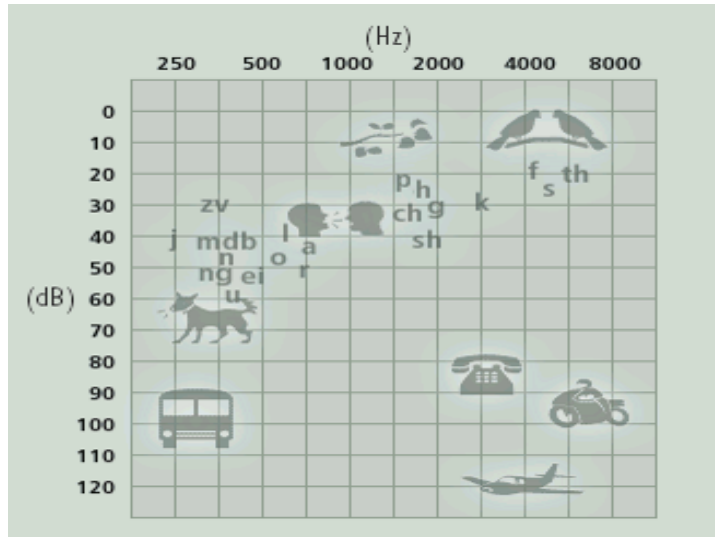
Ling-6 Sound	Frequency it measures
m	/m/ is a very low frequency sound and if your child cannot hear this sound it is likely they will not have sufficient low frequency information to develop speech with normal prosody (tune) and without vowel errors.
oo	/oo/ – [u] has low frequency information.
ee	/ee/ – [i] has some low frequency information and some high frequency information.
ah	/ah/ – [a] is at the centre of the speech range.
sh	/sh/ is in the moderately high frequency speech range.
s	/s/ is in the very high frequency speech range. ¹

Table 1 below shows the 6-Ling sounds, along with other speech sounds, plotted on an audiogram. This shows both the frequency and the loudness of each sound. We suggest talking with your hearing health professional for a full explanation and interpretation of this audiogram.

Hear now. And always



Table 1



How to give the test

Present each sound individually and randomly to ensure your child is not predicting the sound by the order they are presented.

Example of a presenting order over 3 days: (vary the timing between presenting each sound so the presentation rate is not predictable)

Day 1:	m	sh	s	ee	oo	ar
Day 2:	ar	sh	m	ee	oo	s
Day 3:	s	m	oo	ee	sh	ar

Initially say each sound at a distance of 20 centimetres from your child's microphone making sure the environment you are in is nice and quiet (turn off TV, radio and air conditioner).

Once your child responds at 20 cm increase the distance between you and their microphone to 1 metre.

Once your child has responded to the sounds at 1 meter increase the distance to 2 metres and then 3 metres.

- 2 metres is the typical conversational distance between 2 people
- 3 metres is the typical conversational distance between more than 2 people

When you say the sound use a normal speaking voice and either sit beside or behind your child to ensure they are not looking at your face. This way you can be sure they are hearing you, not lip reading.

Once your child detects the sound (by turning, looking at you, smiling etc) let them know 'great listening you heard me say /ah/'.

Use the [Ling-6 Sound Daily Check](#) form to record and keep track of your child's responses (see below for tips on how to use this form).

If your child does not respond to a sound, try saying the sound again and this time include some pitch change and lengthen the sound a little. If your child does not respond to the sound the second time, it's a good idea to leave it aside and move onto the next sound. Be sure to discuss this with your therapists and audiologist.

How to use the Ling-6 Sounds Daily Check form

The Ling-6 Sounds Daily Check form can be found at the end of this document. It is a quick and easy way to record your child's listening status and progress.

Recording your child's name:

Writing your child's name on the space provided on the form is very helpful if you need to present the form to your audiologist or therapist.

Example

Name: Grace Tern

Recording your child's hearing situation:

If your child has bilateral cochlear implants, or wears a cochlear implant on one ear and a hearing aid on the other, it's a good idea to check each device separately. Check the box most appropriate for your child.

Example

Uses:

- A cochlear implant only
- A hearing aid only
- Both a cochlear implant and a hearing aid

Recording the distance a sound is tested at:

As mentioned above, start at a distance on 20 cm. As your child successfully detects the Ling-6 sounds, increase the distance between you and your child's microphone. Ideally children will hear at a typical speaking voice (50-

65dB) and at a typical conversation distance of 3 metres. By writing in the distance tested at, it will be easy to keep track of their progress.

Example

Distance tested at: 1 metre Presentation Level: _____

Recording the listening situation:

As mentioned previously, it's best to start out in a quiet environment with distractions like the TV, radio or air conditioner turned off. Once your child consistently repeats each sound correctly, at a range of different distances, you can then try performing the test in more noisy settings.

Example

Noisy situation OR Quiet situation

Completing the check table:

When completing the table below use the following symbols to show how your child has responded to each sound:

✓ = Correct response — = no response

If your child says the wrong sound, record what sound your child actually says.

Example

	ah	m	oo	sh	s	ee
Week of: 07.09.2009						
Monday	✓	✓	✓	✓	-	✓
Tuesday	✓	✓	✓	-	-	✓
Wednesday	✓	✓	✓	-	-	✓
Thursday	✓	✓	✓	-	-	✓
Friday	✓	✓	✓	✓	-	✓
Saturday	✓	✓	✓	✓	-	✓
Sunday	✓	✓	✓	-	-	✓

Interpreting the above results:

In this example:

- /ah/, /m/, /oo/ and /ee/ were all detected consistently and correctly
- /sh/ is not being detected consistently
- /s/ is not being detected at all.

This is great information to give your audiologist and therapist. In this example, it is probable that the child is in the early stages of having access to all speech sounds and the mid /sh/ and high /s/ frequency sounds might take a little time to become accustomed to.

Example 2

Name: _____ Daniel Tang

Uses:

A cochlear implant only

A hearing aid only

Distance tested at: 3

metres

Both a cochlear implant and a hearing aid

Presentation Level:

Noisy situation **OR** Quiet situation

✓ = Correct response — = no response

If your child says the wrong sound, record what sound your child actually says.

	ah	m	oo	sh	s	ee
Week of: 15.02.2009						
Monday	✓	✓	m	✓	✓	✓
Tuesday	✓	✓	m	✓	✓	- ✓
Wednesday	✓	✓	m	✓	✓	✓
Thursday	✓	✓	m	✓	✓	✓
Friday	✓	✓	m	✓	✓	✓
Saturday	✓	✓	m	✓	✓	✓
Sunday	✓	✓	m	✓	✓	✓

Interpreting the above results:

In this example:

- Daniel has excellent and consistent identification of /ah/, /m/, /sh/, /s/ sounds
- There was one missed response of the /ee/ sound on Tuesday, but Daniel correctly responded the second time. Since he correctly responded to this sound on every other day, it is likely he was tired or distracted on Tuesday.
- On every day, Daniel confused the /oo/ sound for /m/. This is great information for his audiologist who will take this into consideration when next programming Daniel's device.

Reference

1. Ling, D. (2002). *Speech and the hearing impaired child* (2nd ed.). Washington, DC: Alexander Graham Bell Association for the Deaf and Head of Hearing.

Ling-6 Sounds Daily Check

Name: _____

Uses:

A cochlear implant only

A hearing aid only

at: _____

Both a cochlear implant and a hearing aid

Distance tested

Presentation Level:

Noisy situation **OR** Quiet situation

✓ = Correct response — = no response

If your child says the wrong sound, record what sound your child actually says.

	ah	m	oo	sh	s	ee
Week of:						
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						
Saturday						
Sunday						
Week of:						
Monday						
Tuesday						
Wednesday						
Thursday						
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Saturday						
Sunday						