The Sense of Hearing 3

☑ *Lesson Objectives*

Core Content Objectives

Students will:

- ✓ Describe the sense of hearing
- ✓ Identify the parts of the ear
- ✓ Provide simple explanations about how the ear works
- ✓ Describe how the sense of hearing helps people learn about their world
- ✓ Describe some ways people take care of their bodies
- ✓ Describe some ways the sense of hearing protects people from harm

Language Arts Objectives

The following language arts objectives are addressed in this lesson. Objectives aligning with the Common Core State Standards are noted with the corresponding standard in parentheses. Refer to the Alignment Chart for additional standards addressed in all lessons in this domain.

Students will:

- ✓ With prompting and support, identify the main topic and retell key details from "The Sense of Hearing" (RI.K.2)
- ✓ Present information about loud sounds and soft sounds by drawing pictures of common objects that make those sounds (W.K.2)
- ✓ With assistance, categorize and organize loud sounds and soft sounds as described in the read-aloud (W.K.8)
- ✓ With prompting and support, describe familiar things, such as sounds they hear, and provide additional detail (SL.K.4)

- ✓ Provide additional detail to descriptions of loud and soft sounds by adding drawings to the descriptions (SL.K.5)
- ✓ Categorize and organize loud sounds and soft sounds to gain a sense of the concepts the categories represent (L.K.5a)
- ✓ Demonstrate understanding of the adjective *invisible* by relating it to its opposite, *visible* (L.K.5b)
- ✓ Prior to listening to "The Sense of Hearing," identify what they know about the five senses, the sense of sight, and eyes

Core Vocabulary

echo, *n.* A sound that you hear again after it bounces back off something, such as a large mountain or building
Example: Surrounded by mountains, I shouted and then heard an echo of my shout.
Variation(s): echoes

invisible, *adj.* Not able to be seen
Example: Sound is invisible.
Variation(s): none

sound waves, *n.* Bands, or waves, of noise
Example: The sound waves from the music playing down the street carried all the way to my bedroom.
Variation(s): sound wave

vibrate, *v.* To move back and forth in a very small motion
Example: Passing trains make my house vibrate.
Variation(s): vibrates, vibrated, vibrating

volume, *n.* The loudness of a sound; how loud or quiet a sound is
Example: Please turn down the volume on the TV.
Variation(s): volumes

At a Glance	Exercise	Materials	Minutes
Introducing the Read-Aloud	**What Have We Already Learned?**		10
	Purpose for Listening		
Presenting the Read-Aloud	**The Sense of Hearing**		10
Discussing the Read-Aloud	**Comprehension Questions**		10
	Word Work: Invisible		5
	Complete Remainder of the Lesson Later in the Day		
Extensions	**Hush, Little Baby**		15
	Loud and Soft	Instructional Master 3B-1	

The Sense of Hearing

3A

Introducing the Read-Aloud — *10 minutes*

What Have We Already Learned?

Remind students that they have been learning about the five senses. Ask them if they remember what sense they learned about in the previous read-aloud, and what body part they use with that sense. (sight, eyes)

Tell students that the main topic, or main idea, of today's lesson is the sense of hearing. Ask them to close their eyes for a moment, be very quiet, and listen to all the sounds around them. Then instruct students to open their eyes and think about the sounds they heard. Ask them what they heard. They might have heard the hum of the overhead lights, the birds and insects outside, the students in the classroom next door, or a woman in high heels walking down the hall.

Encourage students to brainstorm as many sounds as they might have heard. You might even ask them to close their eyes and listen one more time. Remind them that sound can be really loud—like a lion's roar—or really quiet—like a whisper. Have them practice roaring like a lion and whispering quietly to their neighbor.

Purpose for Listening

Tell students to listen to find out more about today's topic: the sense of hearing and the sounds we hear.

Presenting the Read-Aloud **10** *minutes*

The Sense of Hearing

Show image 3A-1: Different kinds of ears [1]

Your ears are always taking in the sounds that come from all around, whether you are awake or asleep, talking or listening, walking or swimming. Even if you cover your ears, you will still be able to hear sound. Try it! [2] It's not too hard to close your eyes and make it so you can't see anything, but you can't turn your ears off—they hear sound all the time. Listen to find out how the sounds you hear get around or through objects and into your ears.

1 [Ask students to look at the variety of ears pictured. Explain that many animals have ears that help them hear, even though they look different.]

2 [Have students put their hands over their ears.] "Can you still hear me?"

Show image 3A-2: Sound wave diagram

So how does sound get in your ear? Sound travels through the air in **sound waves.** [3] Like waves in the ocean, sound waves move up and down as they move across a space. [4] Just like ocean waves, sound waves make noise as they move. But unlike ocean waves, sound waves are **invisible;** you can't see them. [5] Sound waves are all around you, zooming through the air and bouncing off or traveling through objects. [6] Sometimes you can hear someone's voice out in the hallway even though the door is closed. That is because sound waves can actually travel right through the door or wall, just like the sound waves traveled through your hands to your ears when I was talking to you. But the sounds are muffled, or quieted, because the waves lose strength when they pass through something.

However, sound waves do not travel *through* everything. Sometimes, they bounce off things, especially things like mountains or big buildings. Have you ever heard an **echo**? An echo is a sound that you hear again when sound waves bounce back off something.

3 Sound waves are bands, or waves, of noise. The word *wave* can have other meanings. You can wave with your hand. [Demonstrate a wave with your hand.] It can also mean a wave in your hair. A heat wave is when there are several days in a row when the weather is very hot.

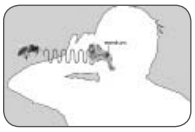
4 [Demonstrate an undulating, wavy motion with your arm.]

5 What are some other things that are invisible?

6 [Have students repeat the undulating, wavy motion with their arms, and explain that this is how sound moves in waves all around us, even though we can't see it.]

Show image 3A-3: Echo Point

This photo shows a place called Echo Point in the Blue Mountains of Australia. With a good, loud shout from this cliff, the sound waves from your voice travel out and bounce off the surrounding cliffs. A second or two later you hear your voice echo very clearly, almost as if someone else were standing on the opposite cliff and copying everything you said.



Show image 3A-4: Ear diagram

When sound waves travel into your ear, they bounce off your eardrums. Your eardrums are inside your ears and, like real drums, when they get bumped by sound waves, they **vibrate** back and forth.[7] When these vibrations travel inside your ear to your brain, your brain can figure out what sound made the vibrations. Your brain can also help you describe the sound by figuring out if it's loud or quiet, and if it's high or low.[8]

7 They move back and forth in a very small motion.

8 [Point to the image and explain that this is a drawing of someone's head. Use the image to show how the sound waves made by the buzzing bee travel to the outside of the ear and then inside to make the eardrum vibrate.]

Show image 3A-5: Red fire alarm

One way to describe a sound is to tell how loud or quiet it is. This is called the **volume.**[9] Another way to describe a quiet sound is to say it is a soft sound. A whisper is a soft sound. Think back to the last time you heard a fire alarm in your school. Was it loud or soft? A fire alarm is supposed to be really loud so people cannot ignore it. The loud volume of the fire alarm makes you want to run away from it.

9 *Volume* means the loudness of a sound— how loud or quiet the sound is.

Show image 3A-6: Ear protection

If you hear a really loud noise, you might automatically use your hands to cover your ears. Your brain tells you to cover your ears in order to keep your eardrums safe from sound waves that might damage them. Sometimes, people use ear plugs or earmuffs to keep the really loud, damaging noises out of their ears.[10] So, protect your ears from loud noises, and unless a parent or doctor is helping you, never put anything *in* your ears. The only things that should go in your ears are . . . sound waves!

10 [Talk about what kinds of jobs the people in the image may have and what kinds of loud sounds could harm them if they didn't protect their ears.]

Discussing the Read-Aloud **15** *minutes*

Comprehension Questions **10** *minutes*

If students have difficulty responding to questions, reread pertinent lines of the read-aloud and/or refer to specific images. If students give one-word answers and/or fail to use read-aloud or domain vocabulary in their responses, acknowledge correct responses by expanding the students' responses using richer and more complex language. Ask students to answer in complete sentences by having them restate the question in their responses.

1. *Inferential* What is the main topic, or main idea, of today's lesson? (the sense of hearing)
2. *Literal* How does sound travel through the air? (in sound waves)
3. *Literal* Can you see sound waves? (No, they are invisible.)
4. *Literal* Can you stop the sound waves completely from coming into your ears? (No, but if you cover your ears the sound is muffled or quieted.)
5. *Literal* What should you do to keep your ears safe from harm? (protect them from very loud sounds by covering them up; never put anything in them)
6. *Literal* What part of your ear vibrates, or moves back and forth, when the sound waves bump into it? (eardrum)
7. *Inferential* What is happening when a sound wave "echoes"? (Sound waves bounce off tall things like cliffs, mountains, or tall buildings, and the noise comes back so you hear it again.)
8. *Inferential* When we talk about the volume of a sound, what are we talking about? (how loud, or quiet or soft a sound is) What sounds can you think of that have a loud volume? (fire alarm, car horn, police car siren) Soft volume? (whisper, mouse, someone tiptoeing down a hall, someone saying, "Shhhh")

[Please continue to model the *Think Pair Share* process for students, as necessary, and scaffold students in their use of the process.]

I am going to ask a question. I will give you a minute to think about the question, and then I will ask you to turn to your neighbor and discuss the question. Finally, I will call on several of you to share what you discussed with your partner.

Evaluative ***Think Pair Share:*** How does the sense of hearing help us learn about the world around us? (Answers may vary but should reflect the understanding that hearing helps to keep us safe and allows us to communicate with the rest of the world.)

9. After hearing today's read-aloud and questions and answers, do you have any remaining questions? [If time permits, you may wish to allow for individual, group, or class research of the text and/or other resources to answer these remaining questions.]

Word Work: Invisible

5 *minutes*

1. In the read-aloud you heard, "[S]ound waves are *invisible.*"
2. Say the word *invisible* with me.
3. If something is invisible*,* you can't see it.
4. You can't see air because it's invisible.
5. What are some other things that are invisible? [Ask two or three students. If necessary guide and/or rephrase the students' responses: "A _____ is invisible."]
6. What's the word we've been talking about?

Use a *Synonyms and Antonyms* activity for follow-up. Directions: I am going to say several items. If I say something that you can see, say, "That is visible." If I say something that you cannot see, say, "That is invisible."

1. a ball (That is visible.)
2. a table (That is visible.)
3. sound waves (Those are invisible.)
4. a car (That is visible.)
5. air (That is invisible.)

Complete Remainder of the Lesson Later in the Day

The Sense of Hearing

3A

Extensions

***15** minutes*

Hush, Little Baby

Ask students, "What sounds can you think of that are loud?" After students provide several examples of loud sounds, ask, "What sounds can you think of that are quiet?" After students provide several examples of quiet sounds, tell students that you will now recite/sing a song that involves different people or animals that can make sounds. Ask students to listen to that song for all the things in the song that can make sounds.

Hush, little baby, don't say a word,

Papa's gonna buy you a mocking bird.

And if that mocking bird won't sing,

Papa's gonna buy you a diamond ring.

And if that diamond ring turns brass,

Papa's gonna buy you a looking glass.

And if that looking glass gets broke,

Papa's gonna buy you a billy goat.

And if that billy goat won't pull,

Papa's gonna buy you a cart and bull.

And if that cart and bull turn over,

Papa's gonna buy you a dog named Rover.

And if that dog named Rover won't bark,

Papa's gonna buy you a horse and cart.

And if that horse and cart fall down,

You'll still be the sweetest little baby in town.

After reciting/singing this song once in its entirety, recite or sing each phrase individually and ask students if that item/animal could make a sound. Then ask students whether each of those sounds is a quiet sound or a loud sound.

You may wish to teach students these lyrics over the course of this domain, or ask the school's music teacher to do so.

⑩ Loud and Soft (Instructional Master 3B-1)

Instructional Master 3B-1 is a helpful way to review terms related to volume. Ask students why the boy is covering his ears when the fire engine drives by. Then ask students why the girl is cupping her hand to her ear to hear the mouse squeak. Review the terms *loud* and *soft.* Ask students to draw other examples of loud sounds in the column with the fire engine. Ask students to draw other examples of soft sounds in the column with the mouse. Encourage students to share their examples with the class.