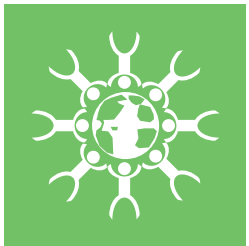
Relay Enhances Language & Communication Abilities, Yes You Can!

ROFLROLLING ON THE FLOOR LAUGHING **LOL**LAUGHING OUT LOUD **L8RG8R**LATER, GATOR


PREFACE

"The important thing is not so much that every child should be taught, as that every child should be given the wish to learn." – John Lubbock, Renowned British archaeologist, biologist and politician (1834-1913)

Welcome to "Relay Enhances Language and Communication Abilities, Yes, You Can!" Our hope for this curriculum will stimulate discussions and educate students, leading to acceptance and appreciation of people with hearing loss. Our goal is simple: through knowledge, deaf children and hearing children can learn together, play together, and, eventually, work together. Through learning, we can help children conquer their fears and realize the beauty of differences. This curriculum will provide you with resources to engage students to connect with the world outside their classroom. By using these tools, your students will be more prepared to open their minds and appreciate diversity.

The development of this curriculum was a collaborative effort of many talented people. The committee consisted of:

Yvonne Barnes, Principal, Eastern North Carolina School for the Deaf (ENCSD), Office of Education Services
Susanna Bourgeois, Manager, Greensboro Regional Center, Division of Services for the Deaf and the Hard of Hearing (DSDHH)
Kendra Davis, Student, Eastern North Carolina School for the Deaf (ENCSD), Office of Education Services
Kevin Earp, Former Sprint Account Manager, Relay NC
Pamela Lloyd-Ogoke, Former Program Administrator, Telecommunications Relay Service, Division of Services for the Deaf and the Hard of Hearing (DSDHH)
Janet McDaniel, Principal, North Carolina School for the Deaf (NCSD), Office of Education Services
Rachael Ragin, Education Consultant, NC Department of Public Information

Special thanks to Maryland Relay, New York Relay, Pat Stivland – DSDHH, Laurie Rook – ENCSD, Leslie Corley – NCSD.

Funding for the curriculum as well as Relay NC originates with the surcharge on telephone bills in North Carolina, and is administered by the Division of Services for the Deaf and the Hard of Hearing (DSDHH) within the North Carolina Department of Health and Human Services (DHHS). DSDHH and Relay NC are dedicated to providing solutions to communication barriers and increasing opportunities for interaction between those who hear and those who hear differently.

Sincerely,

Pamela Lloyd-Ogoke and Kevin Earp
Project Directors

Left to right: Yvonne Barnes, Kendra Davis, Rachael Ragin, Kevin Earp, Pamela Lloyd-Ogoke Susanna Bourgeois, and Janet McDaniel.

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Relay Enhances Language and Communication Abilities: Yes, You Can! addresses technology and how to communicate with people who have hearing loss, with a focus on preparing students to compete with 21st century skills. The Relay Curriculum is designed to provide teachers with additional resources to help address these skills by:

- Making the content area engaging, relevant, and meaningful to students
- Helping students become more globally aware of techniques and technologies that facilitate communication for those with hearing and speech disabilities
- Exposing students to the global diversity of the world we live in and
- Demonstrating the value of lifelong learning

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This curriculum is a joint project of the North Carolina Division of Services for the Deaf and the Hard of Hearing (DSDHH), Department of Health and Human Services, and Relay NC. Relay NC is a free service that provides full telephone accessibility to people who are deaf, hard-of-hearing, deaf-blind, or speech-disabled. Funding for the curriculum as well as Relay NC originates with the surcharge on telephone bills in North Carolina, and is administered by the Division of Services for the Deaf and the Hard of Hearing (DSDHH) within the North Carolina Department of Health and Human Services (DHHS). DHHS, DSDHH and RELAY NC are dedicated to ensuring individuals who are deaf, hard-of-hearing, deaf-blind, or speech-disabled achieve effective communication and a better quality of life through equal access to the communication and human services provided to all other individuals of the community.

THE INCREDIBLE EAR

LEMENOLETMEKNOW **AAF**ASAMATTEROFFACT **MOS**MOTHEROVERSHOULDER

THE STORY IS MY LIFE

By: Jabrina M.
Middle-Schooler

Life isn't easy being hard of hearing. I try to live life as normally as possible. I would like to start with the history of my childhood leading to today so my life can be better understood.

When I was little girl, I went to Elizabethtown Primary School for preschool. My teacher's name was Kitty. I had a hearing best friend named Elizabeth. Kitty could sign very well. I spoke to my friends and I thought I understood the kids but my mom didn't agree with me. She thought the deaf school would benefit me more.

When I moved here to ENCSD to Sue Weber's classroom, I cried a lot because I missed my mom so much. I lived in a dorm during the week and saw my mom on the weekends.

Now I'm in 5th grade and eleven years old. I am so happy to be here at ENCSD and I have good friends. The signing language socialization is wonderful. I like the dorm as well and have many activities in my dorm and school. For instance, I participate in sports such as basketball. I will be manager for the soccer team this spring and I will be a cheerleader next year.

On the weekends, I go home to a hearing family. I'm the only hard-of-hearing member of my family. My family sometimes communicates with me. They don't sign. When they talk, I sometimes miss what they say. I jump in and tell them "Hello, I'm here! Don't forget me!" In the future, I want to go to Bladen Community College. I believe I can succeed. I want to go to school and became a beautician. I can do anything if I believe. Hearing loss won't hold me back from my life.

SUBJECT
Hearing Loss Awareness

LESSON TOPIC
The Five Senses

TIME
One 30-minute period

NBDNO BIG DEAL **PMFI**PARDON ME FOR INTERRUPTING

Program Outcome(s)/Goal(s)/Expectation(s)
Students will demonstrate their ability to interpret and explain information generated by their exploration of scientific phenomena.

Program Indicator(s)
Living things have special parts that allow them to perceive the world around them.

Student Outcome(s)
Students will identify the five senses. Students will try to identify objects with one or more of their five senses missing.

Context for Learning
The students discuss that making observations is an important part of science. To make observations, they need to use their five senses: sight, hearing, smell, taste and touch.

Materials Needed
- The Five Senses (Handout #1)
- A paper mystery bag with items to identify (Examples: bar of soap, cotton balls, cinnamon, whistle)
- Learning Log (Handout #2)
- Teacher Resources

INSTRUCTIONAL DELIVERY

Opening Activities

Tell students that today they will try to guess what is in the mystery bag by using some of their senses.

Procedure

1. Read student outcome together.
2. Discuss how the five senses are useful to us.
3. Use Handout #1 to review the five senses. Ask students to predict how they would manage if one or more of their senses were missing.

Assessment/Evaluation

The Learning Log may be used to assess the students' knowledge of the five senses.

Closure

Instruct students to summarize what they learned about the five senses.

HANDOUT #1

THE FIVE SENSES

SIGHT

TOUCH

HEARING

TASTE

SMELL

THE INCREDIBLE EAR

HANDOUT #2

LEARNING LOG

Describe what you learned about the five senses, how you use them in your everyday life, and what you would do and how you would manage if one of them were missing.

Today I

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Yours Truly, _____

Date _____

THE INCREDIBLE EAR

SUBJECT
Hearing Loss Awareness

LESSON TOPIC
Parts of the Ear/Causes of Hearing Loss

TIME
One 45-minute period

BBLBEBACKLATER **DK**DON'TKNOW **FWD**FORWARD

Program Outcome(s)/Goal(s)/Expectation(s)
Students will demonstrate the ability to employ the language, instruments, methods and materials of science for collecting, organizing, interpreting and communicating information.

Program Indicator(s)
Students will identify and label parts of the ear and explain the causes of hearing loss.

Context for Learning
Students must understand that a system has parts that work together. The ear is a system within the human body. Discuss examples of other systems within the body such as the eye, heart and brain.

The teacher will need the following materials
- Model of the ear (if available)
- Parts of the Ear (Handout #1 and Transparency #1)
- Answer Key for Parts of the Ear (Teacher Resource Sheet)
- How We Hear – (Handout #2 and Transparency #2)
- When You Have a Hearing Test – Audiogram (Handout # 3 and Transparency # 3)
- Major Causes of Hearing Loss (Handout #4 and Transparency #4)
- About Hearing Loss (Handout # 5)
- Activity Questions (Handout #6)
- Cotton Balls
- Teacher Resources

INSTRUCTIONAL DELIVERY

Opening Activities

Tell students that today they will try to experience what it is like to have a hearing loss. Have them put cotton in their ears and listen to a short story. Speak very softly when telling the story. Ask children to answer some questions about the story. Discuss why they missed some of the story and how they felt about missing some of the words.

Procedure

1. Read student outcome together.
2. Discuss how the ear works as a system.
3. Use Overhead Transparency and Handout #1, Parts of the Ear, to show the parts of the ear. Have students label each part as it is discussed. Show the parts on the model of the ear, if available.
4. Ask students what would happen if a part of the ear did not work.
5. Use Overhead Transparency and Handout #2, How We Hear, to discuss symptoms of hearing loss. Relate them to the earlier experiment with the short story and the cotton in their ears.
6. Use Overhead Transparency and Handout #3, #4 (Major Causes of Hearing Loss) and #5. Relate the symptoms to the earlier experiment with the short story and cotton in the students' ears (About Hearing Loss), to discuss causes of hearing loss.

Assessment/Evaluation

Have students answer Activity Questions (Handout #6).

Closure

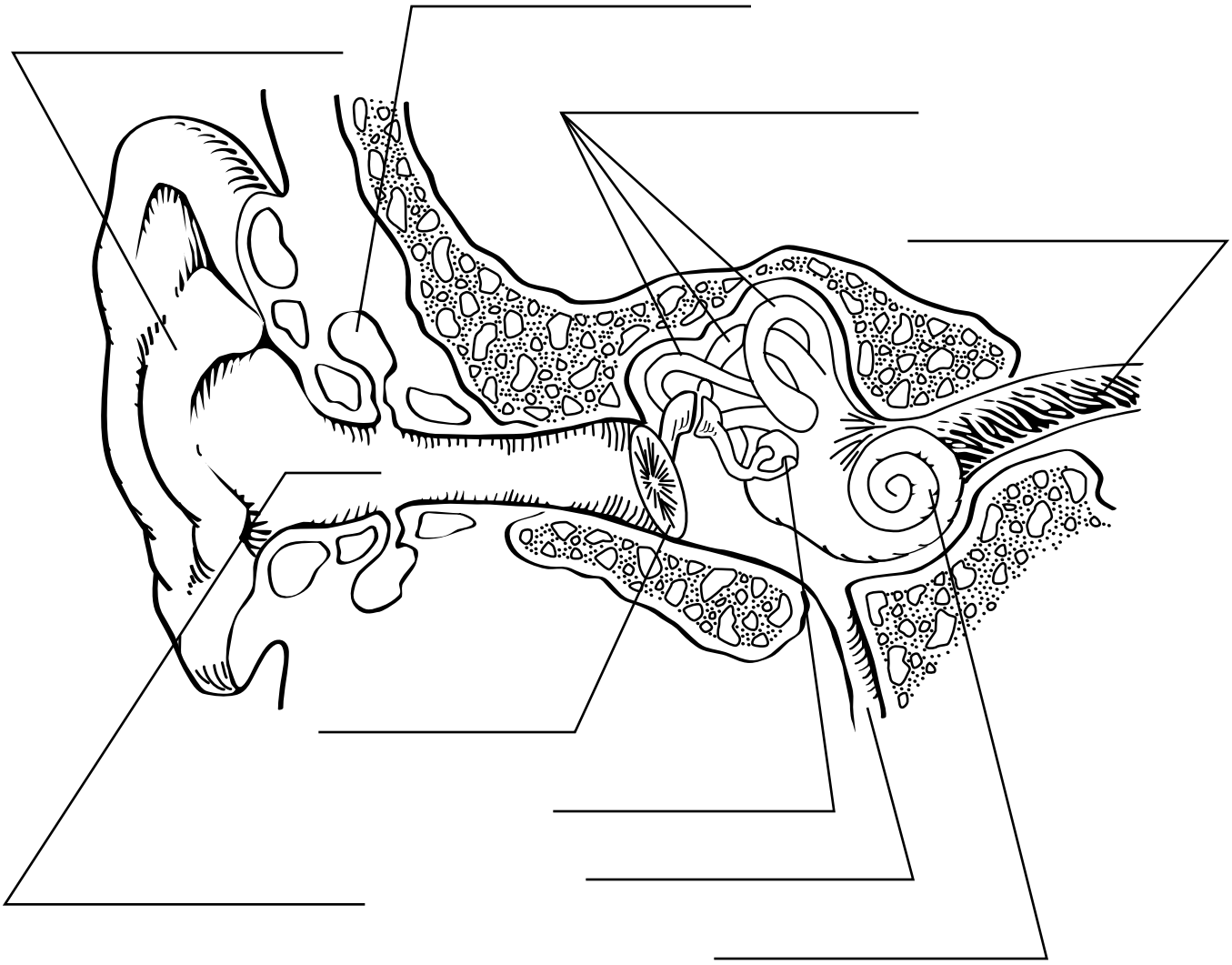
Summarize what students learned about the human ear and how it works as a system. Review the leading causes of hearing loss.

OVERHEAD TRANSPARENCY #1

PARTS OF THE EAR/CAUSES OF HEARING LOSS

Please label the parts of the ear.

Name: _____



WORD BANK

auditory canal	oval window	cochlea
semicircular canals	auditory nerve	Eustachian tube
pinna (outer ear)	eardrum	wax gland

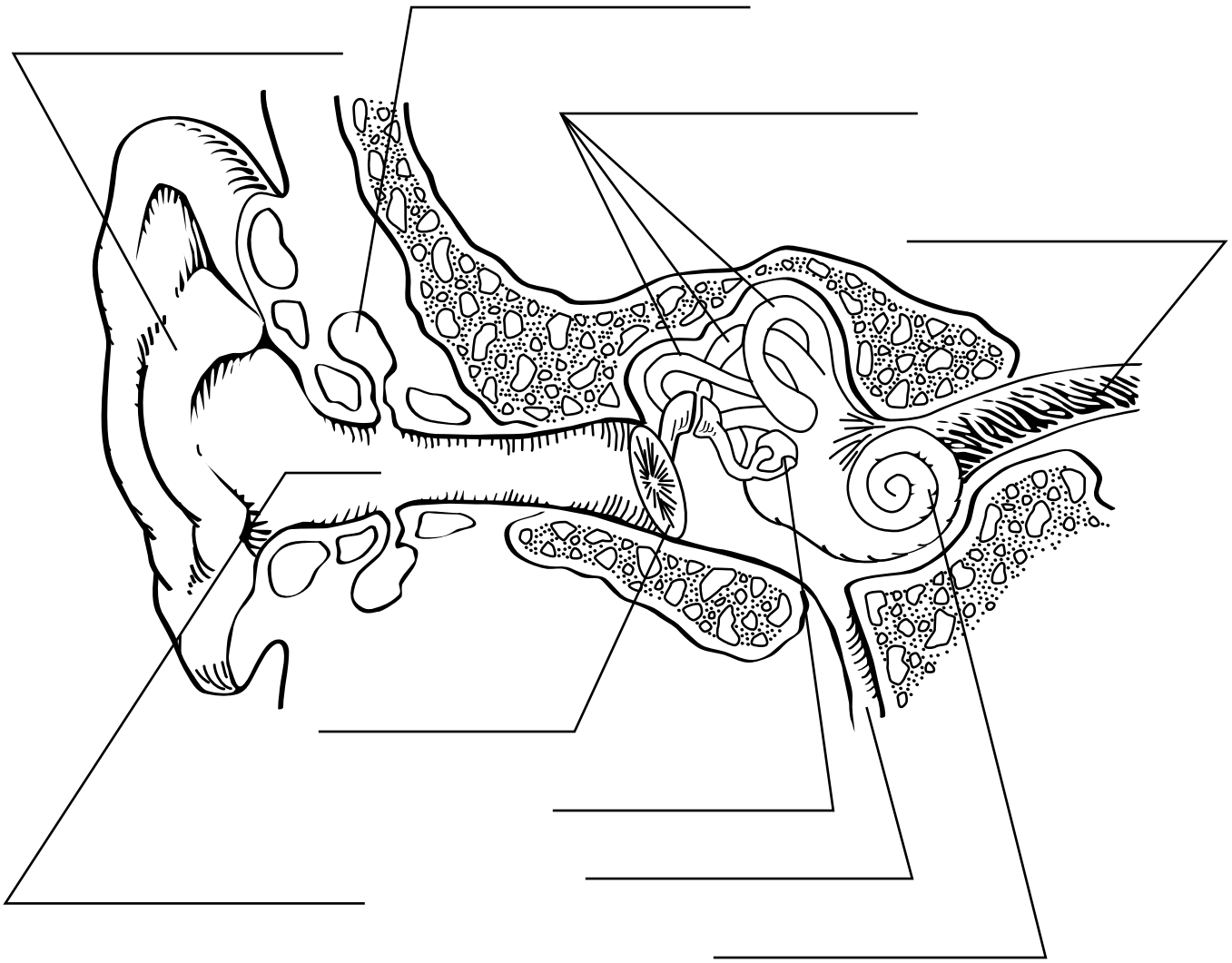
THE INCREDIBLE EAR

HANDOUT #1

PARTS OF THE EAR/CAUSES OF HEARING LOSS

Please label the parts of the ear.

Name: _____



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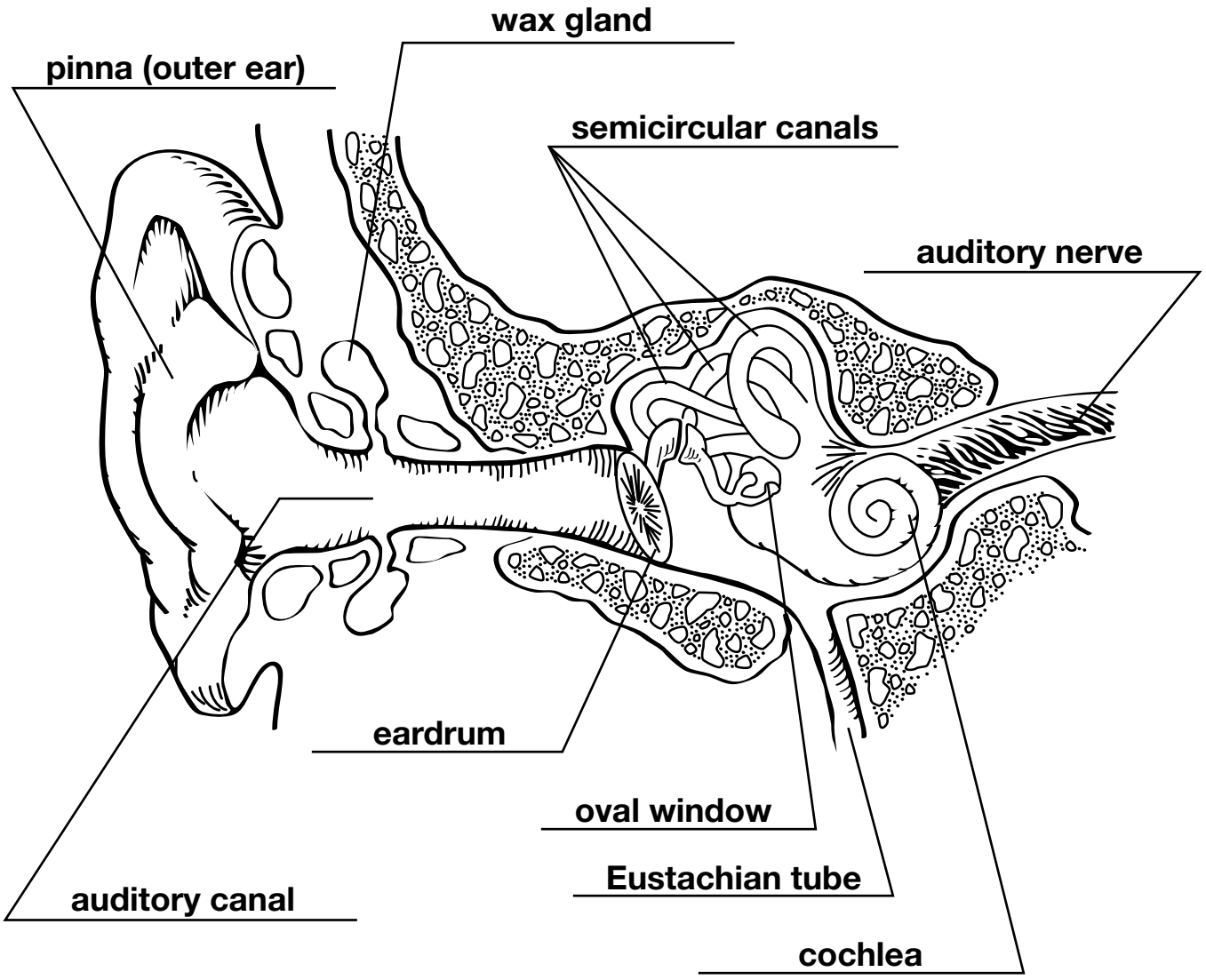
THE INCREDIBLE EAR

OVERHEAD TRANSPARENCY #2

PARTS OF THE EAR/CAUSES OF HEARING LOSS

ANSWER KEY



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auditory canal	oval window	cochlea
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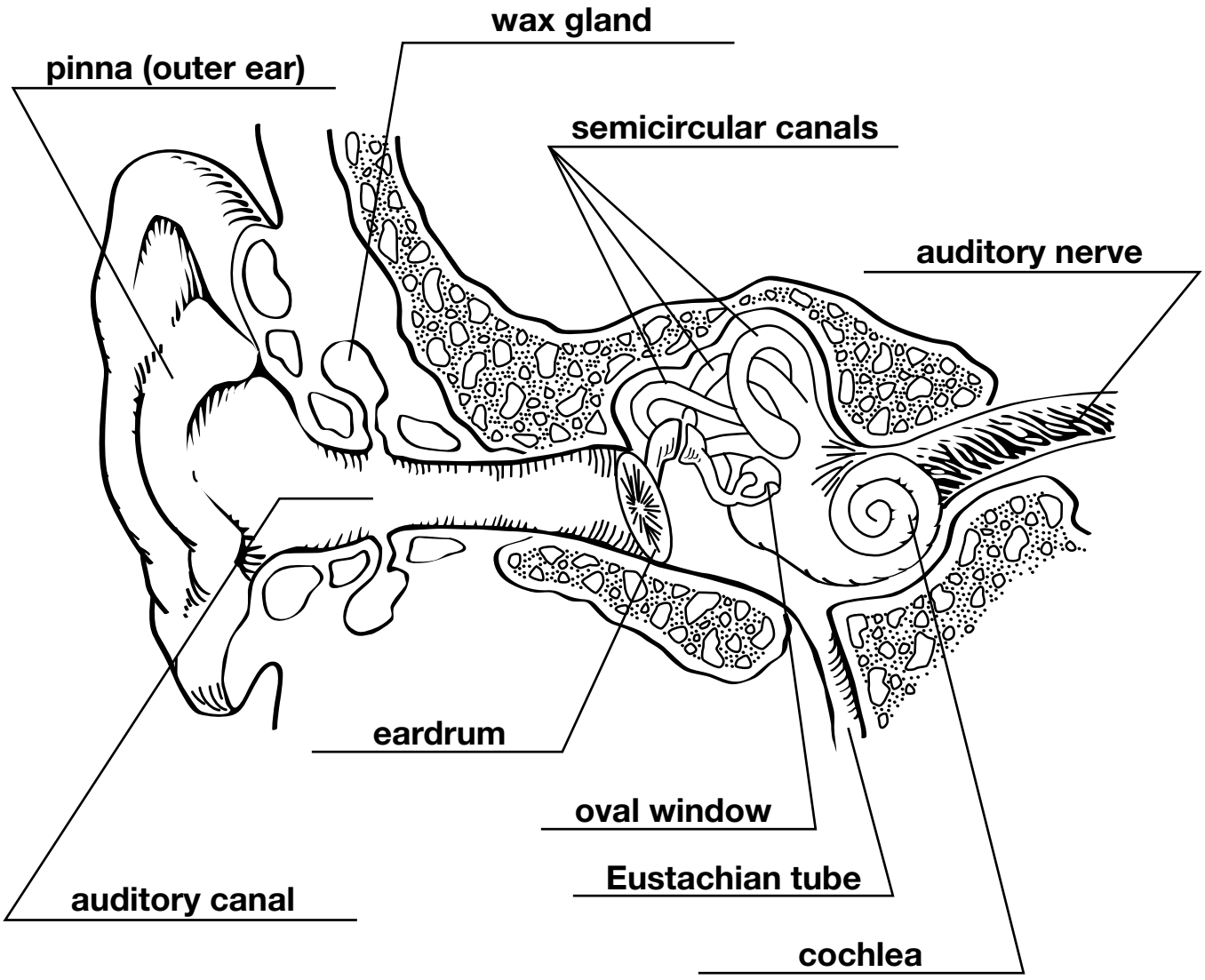
THE INCREDIBLE EAR

ANSWER KEY

PARTS OF THE EAR/CAUSES OF HEARING LOSS



WORD BANK

auditory canal	oval window	cochlea
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THE INCREDIBLE EAR

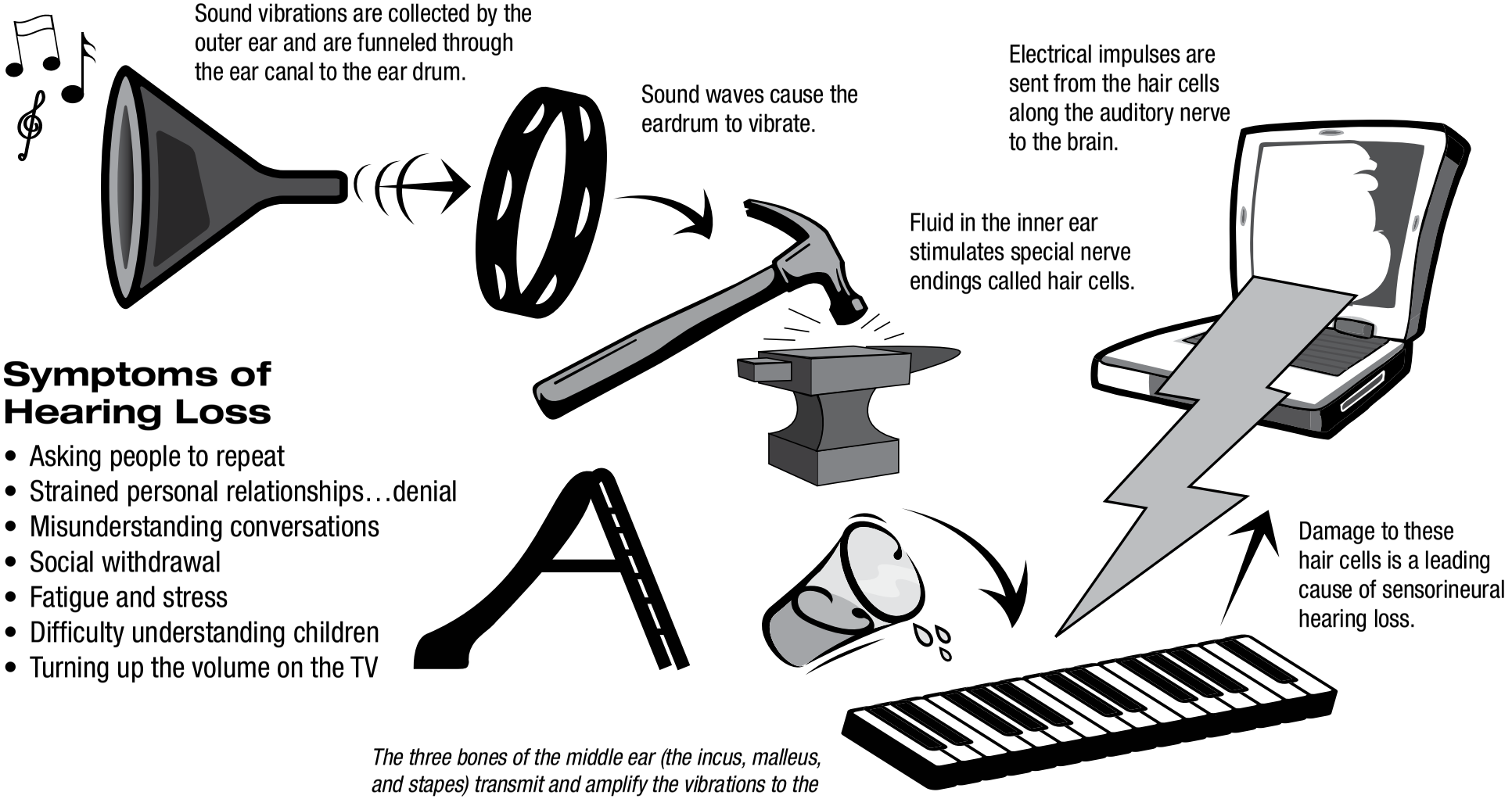
OVERHEAD TRANSPARENCY #3

PARTS OF THE EAR/CAUSES OF HEARING LOSS

THE INCREDIBLE EAR

Patient Ear Chart

HOW WE HEAR



Symptoms of Hearing Loss

- Asking people to repeat
- Strained personal relationships…denial
- Misunderstanding conversations
- Social withdrawal
- Fatigue and stress
- Difficulty understanding children
- Turning up the volume on the TV

The three bones of the middle ear (the incus, malleus, and stapes) transmit and amplify the vibrations to the oval window of the inner ear. Conductive hearing loss generally occurs in this middle ear area.

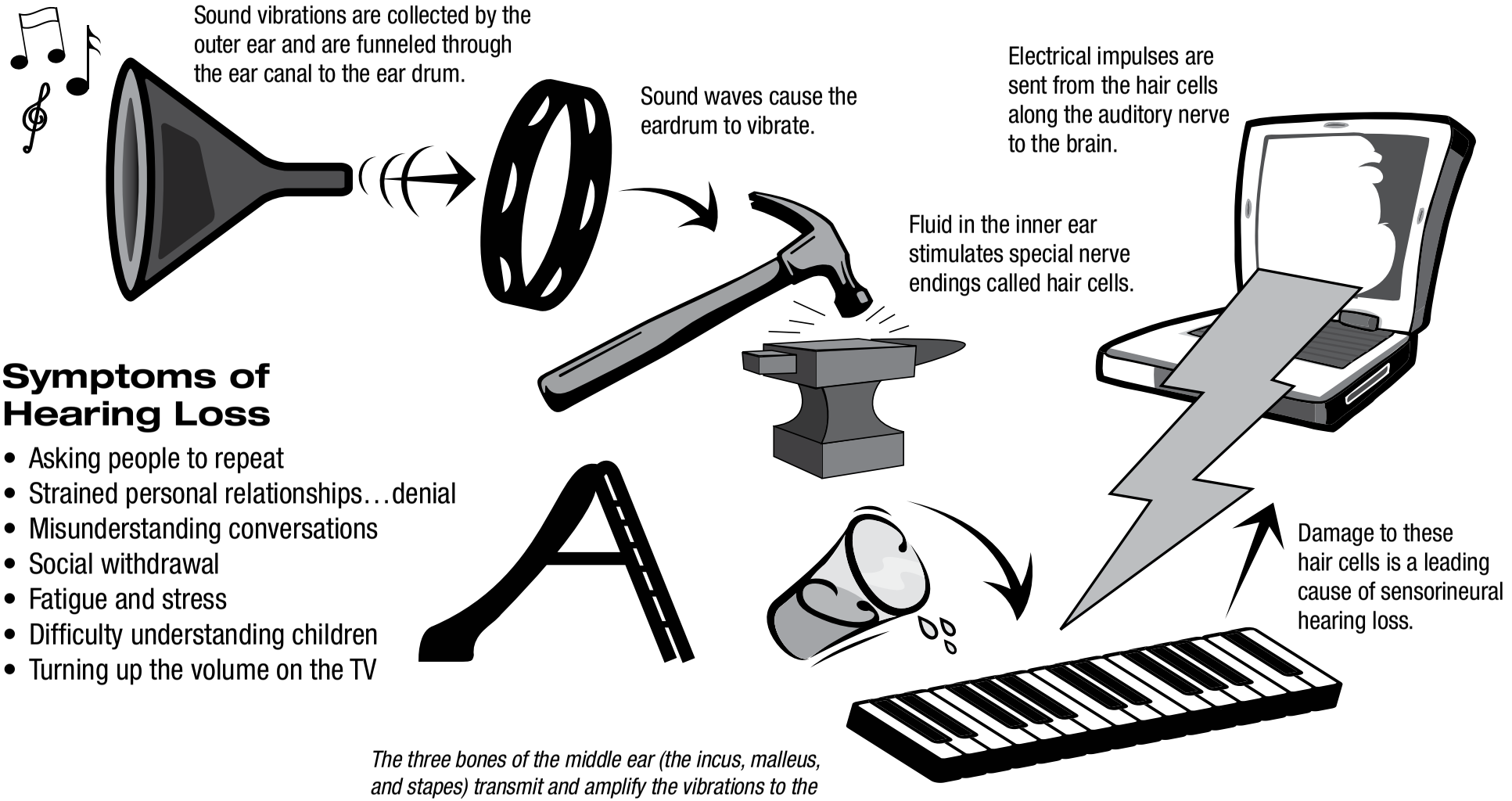
HANDOUT #2

PARTS OF THE EAR/CAUSES OF HEARING LOSS

THE INCREDIBLE EAR

Patient Ear Chart

HOW WE HEAR



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WHEN YOU HAVE A HEARING TEST

A hearing test tells how well you can hear loud sounds and soft sounds. A hearing test also tells how well you can hear high-pitch sounds and low-pitch sounds.

Look at the picture. Find the girl in the picture. What is on her head? They are called earphones. She can hear sounds in the earphones. She will listen for high-pitch sounds, low-pitch sounds, loud sounds and soft sounds. When she hears a sound, she will raise her hand.

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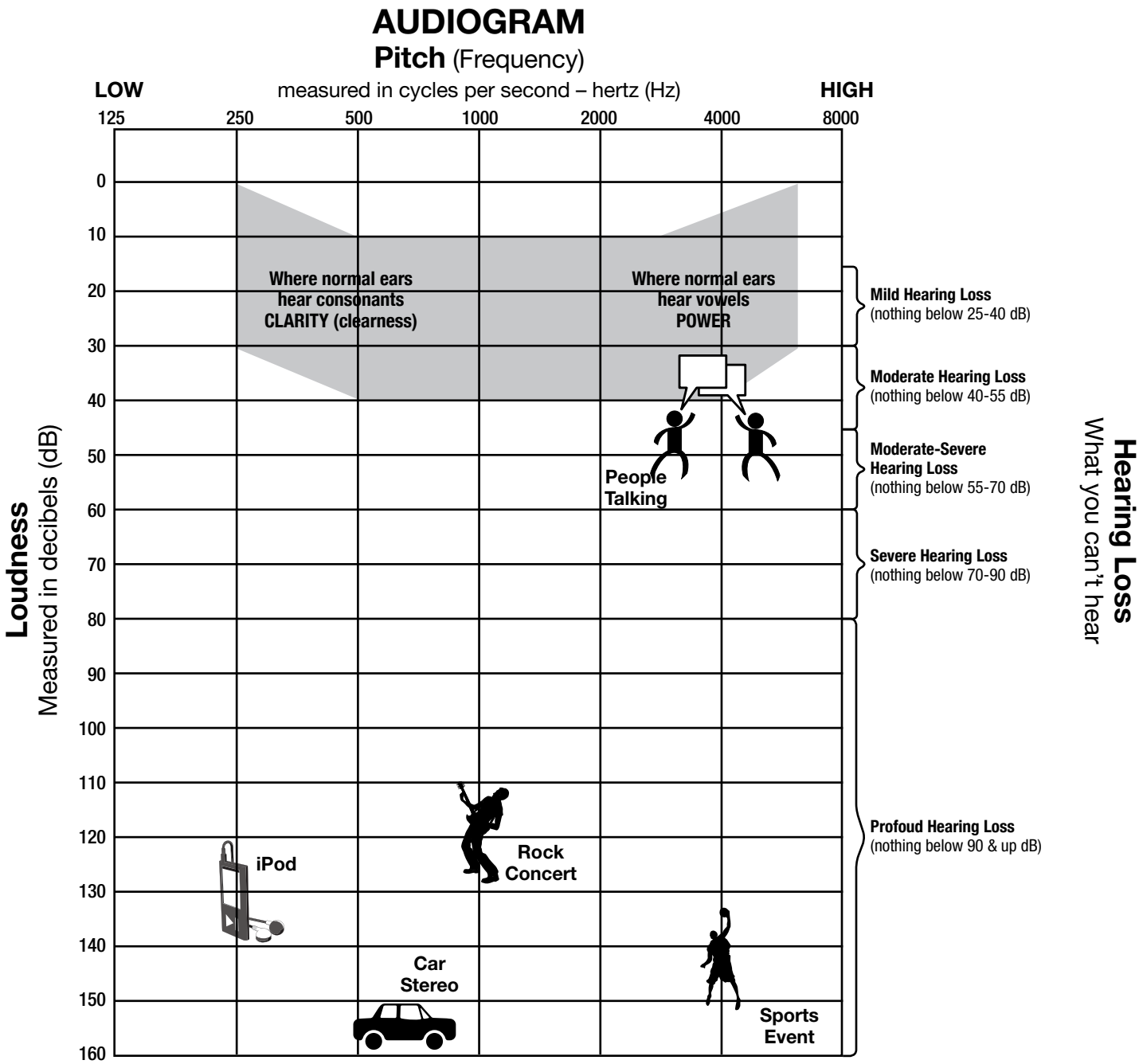
HANDOUT #3

PARTS OF THE EAR/CAUSES OF HEARING LOSS

The pictures on this audiogram show the loudness and frequency (pitch) of speech and other everyday sounds. Some of the sounds (rock concert and iPod) are so loud they can harm your hearing if you are exposed to them for long periods of time.



Normal hearing ranges between 10 and 50 dB (decibels). Conversations are at 55 dB. Normal ears can hear loudness up to 110 dB and be comfortable. The threshold of pain is 140 dB. Listening to sounds this loud for long may cause hearing loss or puncturing of the eardrum.

Loudness Levels of Common Sounds

10 dB	Breathing	**90 dB**	Hair Dryer	**120 dB**	Rock Concert
30 dB	Whisper	**110 dB**	Video Arcade	**130 dB**	Sports Event
40-80 dB	Conversation	**120 dB**	iPod	**154 dB**	Car Stereo

*Special thanks to Victoria P. Bottoms, NBC-HIS, ACA, Down East Hearing Care Associates and National Board-Certified Hearing Instrument Specialist, Audioprosthologist

THE INCREDIBLE EAR

OVERHEAD TRANSPARENCY #5

PARTS OF THE EAR

THE INCREDIBLE EAR

CAUSES OF HEARING LOSS

Adults

- Excessive noise exposure
- Presbycusis (age-related hearing loss)
- Tumors and other space occupying lesions
- Vascular and circulatory disorders
- Heredity

Children

Middle Ear Problems

- Before age six, 90% of all children in the United States will suffer from otitis media (ear infection)

Congenital Issues

- Craniofacial anomalies
- Family history of hearing loss
- Congenital infections

Other

- Bacterial meningitis
- Head trauma
- Ototoxic medicines
- Childhood infectious diseases (mumps, measles)

HANDOUT #4

PARTS OF THE EAR

CAUSES OF HEARING LOSS

Adults

- Excessive noise exposure
- Presbycusis (age-related hearing loss)
- Tumors and other space occupying lesions
- Vascular and circulatory disorders
- Heredity

Children

Middle Ear Problems

- Before age six, 90% of all children in the United States will suffer from otitis media (ear infection)

Congenital Issues

- Craniofacial anomalies
- Family history of hearing loss
- Congenital infections

Other

- Bacterial meningitis
- Head trauma
- Ototoxic medicines
- Childhood infectious diseases (mumps, measles)

HANDOUT #5

PARTS OF THE EAR/CAUSES OF HEARING LOSS

Understanding the Ear

To understand the types and causes of hearing loss, it is helpful to understand the basic components of the ear. The ear is divided into three main parts: the outer ear, the middle ear and the inner ear.

Outer Ear

The outside of the ear, plus the ear canal up to the eardrum or tympanic membrane.

Middle Ear

The cavity behind the tympanic membrane which houses three small bones that help conduct sound waves to the inner ear.

Inner Ear

The cavity behind the middle ear houses a series of channels known as the labyrinth and a snail-shaped structure called the cochlea. The labyrinth is integral to the human balance system. The cochlea contains the thousands of nerves responsible for sensing sound and transmitting it to the brain for processing.

Auditory Nerve

The eighth cranial nerve, which is the pathway of sound from the ear to the brain.

Types/Causes of Hearing Loss

The type of hearing loss in any one person depends upon where in the ear the problem occurs. Among the common types of hearing loss are:

Conductive

Loss of hearing caused by a problem in the outer or middle ear. A conductive loss prevents sound from reaching the nerves in the inner ear. Common causes include:

- Deformity in the outer or middle ear structure.
- Ruptured eardrum.
- Wax buildup in the outer ear.
- Fluid buildup in the middle ear system.

Sensorineural

Hearing loss caused by damage to some or all of the nerves in the inner ear. Sensorineural losses cannot be reduced or eliminated by surgery. There are many causes, differing by age of onset.

Before or During Birth:

- Prenatal infections such as rubella, herpes, toxoplasmosis, syphilis, cytomegalovirus (CMV)
- Heredity
- Asphyxia or lack of oxygen at birth.
- Possible association with birth weight of less than 1500 grams.
- Possible association with defects of the head and neck

Later Onset:

- Bacterial meningitis.
- Ototoxicity (drug induced).
- Intense or excessive noise.
- Physical damage to head or ear

Mixed

Hearing loss caused by any combination of the listed causes of conductive and sensorineural hearing loss.

THE INCREDIBLE EAR

PARTS OF THE EAR/CAUSES OF HEARING LOSS

Influence of Varying Types of Hearing Loss

Conductive Hearing Loss

Conductive hearing loss is generally a loudness difficulty. In children with a conductive hearing loss, the inner ear system is intact and ready to accept incoming sounds. The hearing loss is created by some kind of blockage that prevents sound from reaching the functioning inner ear. Once sound reaches the inner ear it is usually clear and undistorted.

Some implications of conductive loss are:

- The problem can usually be reduced or eliminated through medical treatment.
- The problem may or may not be temporary, depending on the nature of the blockage.
- If the hearing loss is of short duration, it should have no effect on language learning. If the blockage is chronic or repeated, it may influence speech and language development and educational performance.
- If the loss is due to a long-term problem, and cannot be resolved medically, habilitation may be necessary. Use of a hearing aid may be recommended to overcome the blockage so the child does not lose valuable language development and education time.
- Special Education programming is usually not necessary for children with conductive hearing loss.
- Routine monitoring of hearing is recommended for children who have repeated conductive or middle ear problems.
- Be aware that children who present classroom behavior problems and appear to not pay attention may have fluctuating conductive hearing loss.

Sensorineural Hearing Loss

Sensorineural hearing loss is a difficulty that involves both distortion and loudness. Sensorineural loss may affect some or all of the hair cells or nerves in the inner ear responsible for sensing sounds of different pitches. This will cause varying degrees and configurations of hearing loss. Several characteristics are typical of most sensorineural hearing losses.

- The loss is permanent and cannot be surgically repaired.
- Early identification and intervention are necessary to enable children who are deaf or hard of hearing to learn language during the critical early years.
- Each deaf or hard of hearing child has unique language learning and communication needs. Various language development and educational approaches are chosen by families to address these needs.
- Hearing aids can benefit many children with sensorineural loss. There are different levels of benefit a child may receive from a hearing aid. Some children may benefit from a hearing aid to process spoken English or components of spoken English while other children may use a hearing aid only for more basic purposes such as alerting to sounds.

Mixed Hearing Loss

Mixed hearing losses cause difficulty of both loudness and distortion. Since mixed losses combine the characteristics of conductive and sensorineural loss, the extent of each component will determine its implications.

THE INCREDIBLE EAR

PARTS OF THE EAR/CAUSES OF HEARING LOSS

- If the conductive component is significant, with very little damage to the nerves of the inner ear, the disorder will center on loudness rather than distortion of sound.
- If the conductive component is minimal, with the sensorineural component more significant, the loss may carry a larger distortion factor.

As conductive losses tend to fluctuate, depending on the nature of the loss, mixed losses may also fluctuate and the child's response behavior could vary from day to day.

Other Considerations

- The age of onset of hearing loss has a significant impact on a child's speech and language development. A child who is prelingually deaf (became deaf before acquiring language) and a child who is postlingually deaf (became deaf after exposure to and acquisition of language) will each present different circumstances in terms of language use and development.
- How quickly a child's hearing loss is diagnosed and how expediently the child is provided access to a clear language system will have a significant impact on the child's language development. It should be noted that Deaf children from Deaf families who have access to American Sign Language (ASL) from birth have been shown to acquire ASL at the same rate that hearing children develop spoken language.
- There are many degrees, types, and patterns of hearing loss. There is no one description or profile of a deaf or hard of hearing that fits all children.
- Even if two children have the same degree, type and pattern of hearing loss, it does not mean they hear and understand the same thing or benefit from a hearing aid in the same way. Each child's hearing and speaking capabilities are unique.
- Some causes of deafness (i.e.: rubella, cytomeglovirus, meningitis, etc.) have other associated conditions that may impact on a child's learning characteristics.

Many deaf children have some residual (remaining) hearing.

Developed by: Debra Nussbaum, Audiologist, Kendall Demonstration Elementary School

THE INCREDIBLE EAR

HANDOUT #6

PARTS OF THE EAR/CAUSES OF HEARING LOSS

Name: _____ Date: _____

1. Explain how the ear is a system and what would happen if one part did not work. Use correct terminology with the help of your handouts.

2. Explain one leading cause of hearing loss.

3. Describe what it was like when you could not hear well. Include specific details in your description.

THE INCREDIBLE EAR

SUBJECT
Hearing Loss Awareness

LESSON TOPIC
Hearing Aids and Cochlear Implants

TIME
One 60-minute period

HIGHOW'SITGOING **J4F**JUST FOR FUN **IOW**INOTHERWORDS

Program Outcome(s)/Goal(s)/Expectation(s)
Students will demonstrate the ability to interpret information by interacting with a text.

Program Indicator(s)
Students will demonstrate the ability to acquire interpretation skills when reading to be informed.

Student Outcome(s)
Students will read to be informed and report information by using the cooperative learning strategy called *Jigsaw*.

Context for Learning
The students have been studying how technology has helped improve hearing. Today they will read about hearing aids and work in cooperative groups. Each group will be responsible for reading one section about hearing aids and reporting what they learn to the whole class. The class will listen and complete a Taba chart, a data retrieval chart designed to facilitate good teacher/student interaction through the use of experiential learning and cognitive processing of material and the experience.

The teacher will need the following materials
- Hearing aids (Handouts #1, #2, #3, #4, #5 and #6)
- Worksheet for group notes (Handout #7 – This could be a transparency for each group)
- Taba Chart (Handout #8)
- Group Roles Transparency (Teacher Resource Sheet)
- Teacher Resources

INSTRUCTIONAL DELIVERY

Opening Activities/Motivation

Explain to the students that today they will use the cooperative learning strategy called Jigsaw. It will save a lot of time, and each group will be experts on a particular subject. Then, group members will report to the class what they have learned. At this time, explain and assign roles (Teacher Resource Sheet).

Procedure

1. Read the student outcome together.
2. Give each group its assignment and note-taking sheet (Handouts #1, #2, #3 and #4).
3. The reader should read the selection to the group.
4. The group should discuss important points to report to the class, and the recorder should write each point on the note-taking sheet (Handout #5).
5. Each group will report important information from its text to the entire class.
6. All students should complete the Taba chart on hearing aids (Handout #6).

Assessment/Evaluation

The teacher may collect the Closure Activity. A listening and speaking grade also can be given while the groups are reporting.

Closure

Have students write three things they learned about hearing aids.

OVERHEAD TRANSPARENCY #1

HEARING AIDS AND COCHLEAR IMPLANTS

GROUP ROLES

Reader:
The reader should read the selection clearly to the group.

Recorder:
The recorder should write down important facts discussed by the group.

Timekeeper:
The timekeeper should keep track of the time and tell the group how much time remains.

Presenter:
The presenter should speak clearly to the whole class when explaining what the group learned from the selection.

THE INCREDIBLE EAR

HANDOUT #1

HEARING AIDS AND COCHLEAR IMPLANTS

Digital Hearing Aids

Digital hearing aids are made with a microchip inside and are programmed by computer. Once the hearing aid is disconnected from the computer, the hearing aid responds to multiple sounds and adapts to a large number of listening environments. Here's how a digital hearing aid works: the sound wave enters a microphone in the hearing aid, and the sounds are translated into a series of numbers. A special processor in the hearing aid then performs many mathematical calculations and helps keep the sounds within the wearer's personal comfort zone. The digital signal is then fed into a receiver and into the ear as a clear sound. This hearing aid has four types: behind the ear, in the ear, in the canal and completely in the ear canal.

Behind the Ear

In the Ear

In the Canal

Completely in the Canal

THE INCREDIBLE EAR

HANDOUT #2

HEARING AIDS AND COCHLEAR IMPLANTS

Open Fit Hearing Aids

Open Fit hearing aids make sounds clear. These high tech aids are the latest design in hearing aid technology. Small, lightweight, comfortable and simple to clip on, these aids are digital and programmable and, best of all, nearly invisible. They are not a closed fit – the device does not fill the ear cavity – but, instead, are more of a one-size-fits-all open fit using an earbud device. These aids range from those for mild hearing loss (high frequency), mild to moderate hearing loss (wide-band) and mild to severe hearing loss (wide dynamic). The aid for wide dynamic hearing loss is actually a computer.

Mild Hearing Loss

Mild to Moderate Hearing Loss

Mild to Severe Hearing Loss

THE INCREDIBLE EAR

HANDOUT #3

HEARING AIDS AND COCHLEAR IMPLANTS

Programmable Hearing Aids

A programmable hearing aid has digitally programmed instructions in its memory, inside the hearing aid. The hearing aid is specially programmed to respond to specific environments based on the results of the user's hearing test. Once programmed, the hearing aid can easily be readjusted, fine-tuned or even replaced in the event that a person's hearing needs change. This hearing aid offers a better way to accommodate an individual's hearing needs, allowing the greatest flexibility of all hearing aids. This hearing aid has four types: behind the ear, in the ear, in the ear canal and completely in the ear canal.

Behind the Ear

In the Ear

In the Canal

Completely in the Canal

THE INCREDIBLE EAR

HANDOUT #4

HEARING AIDS AND COCHLEAR IMPLANTS

Conventional (Analog) Hearing Aids

Conventional hearing aids increase sound level and fit on the back of the ear or inside the ear. An analog (conventional) hearing aid has an electronic circuit that closely matches a person's hearing loss needs. Only one or two adjustments to the hearing aid can be made. These aids offer the most basic type of amplification and are a good choice when money is the major concern because they are the most inexpensive. This hearing aid has two types: behind the ear and in the ear.

Behind the Ear

In the Ear

THE INCREDIBLE EAR

DIGITAL HEARING AIDS

Digital hearing aids are made with a microchip inside and are programmed by computer. Once the hearing aid is disconnected from the computer, the hearing aid responds to multiple sounds and adapts to a large number of listening environments. Here's how a digital hearing aid works: the sound wave enters a microphone in the hearing aid, and the sounds are translated into a series of numbers. A special processor in the hearing aid then performs many mathematical calculations and helps keep the sounds within the wearer's personal comfort zone. The digital signal is then fed into a receiver and into the ear as a clear sound. This hearing aid has four types: behind the ear, in the ear, in the canal and completely in the ear canal.

Behind the Ear

In the Ear

In the Canal

Completely in the Canal

TEACHER RESOURCE

THE INCREDIBLE EAR

OPEN FIT HEARING AIDS

Open Fit hearing aids make sounds clear. These high tech aids are the latest design in hearing aid technology. Small, lightweight, comfortable and simple to clip on, these aids are digital and programmable and, best of all, nearly invisible. They are not a closed fit – the device does not fill the ear cavity – but, instead, are more of a one-size-fits-all open fit using an earbud device. These aids range from those for mild hearing loss (high frequency), mild to moderate hearing loss (wide-band) and mild to severe hearing loss (wide dynamic). The aid for wide dynamic hearing loss is actually a computer.

Mild Hearing Loss

Mild to Moderate Hearing Loss

Mild to Severe Hearing Loss

PROGRAMMABLE HEARING AIDS

A programmable hearing aid has digitally programmed instructions in its memory, inside the hearing aid. The hearing aid is specially programmed to respond to specific environments based on the results of the user's hearing test. Once programmed, the hearing aid can easily be readjusted, fine-tuned or even replaced in the event that a person's hearing needs change. This hearing aid offers a better way to accommodate an individual's hearing needs, allowing the greatest flexibility of all hearing aids. This hearing aid has four types: behind the ear, in the ear, in the ear canal and completely in the ear canal.

Behind the Ear

In the Ear

In the Canal

Completely in the Canal

TEACHER RESOURCE

THE INCREDIBLE EAR

CONVENTIONAL (ANALOG) HEARING AIDS

Conventional hearing aids increase sound level and fit on the back of the ear or inside the ear. An analog (conventional) hearing aid has an electronic circuit that closely matches a person's hearing loss needs. Only one or two adjustments to the hearing aid can be made. These aids offer the most basic type of amplification and are a good choice when money is the major concern because they are the most inexpensive. This hearing aid has two types: behind the ear and in the ear.

Behind the Ear

In the Ear

COCHLEAR IMPLANTS

WHAT IS A COCHLEAR IMPLANT?

A cochlear implant is a small, complex electronic device that can help to provide a sense of sound to a person who is profoundly deaf or severely hard of hearing. The implant is surgically placed under the skin behind the ear. An implant has four basic parts:

- A **microphone**, which picks up sound from the environment;
- A **speech processor**, which selects and arranges sounds picked up by the microphone;
- A **transmitter and receiver/stimulator**, which receive signals from the speech processor and convert them into electric impulses;
- And **electrodes**, which collect the impulses from the stimulator and send them to the brain.

An implant does not restore or create normal hearing. Instead, under the appropriate conditions, it can give deaf people a useful auditory understanding of the environment and help them to understand speech.

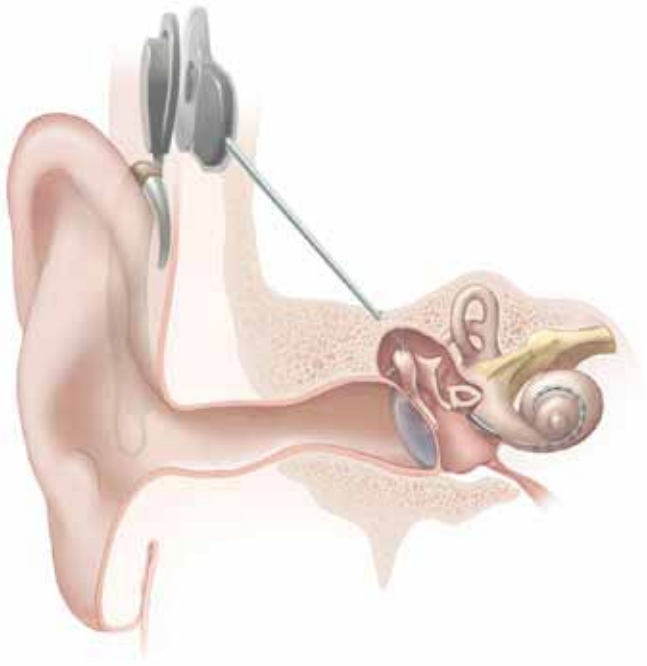
HOW DOES A COCHLEAR IMPLANT WORK?

A cochlear implant is very different from a hearing aid. Hearing aids amplify sound. Cochlear implants compensate for damaged or non-working parts of the inner ear. When hearing is functioning normally, complicated parts of the inner ear convert sound waves in the aid into electrical impulses. These impulses are then sent to the brain, where a hearing person recognizes them as sound. A cochlear implant works in a similar manner. It electronically finds useful sounds and then sends them to the brain. Hearing through an implant may sound different from normal hearing, but it allows many people to communicate fully both in person and over the phone.

WHO IS ELIGIBLE FOR A COCHLEAR IMPLANT?

- Deaf and severely hard of hearing people
- Both children and adults

*Used with permission from National Institute on Deafness and Other Communication Disorders, NIH Medical Arts & Photography Branch.



TEACHER RESOURCE

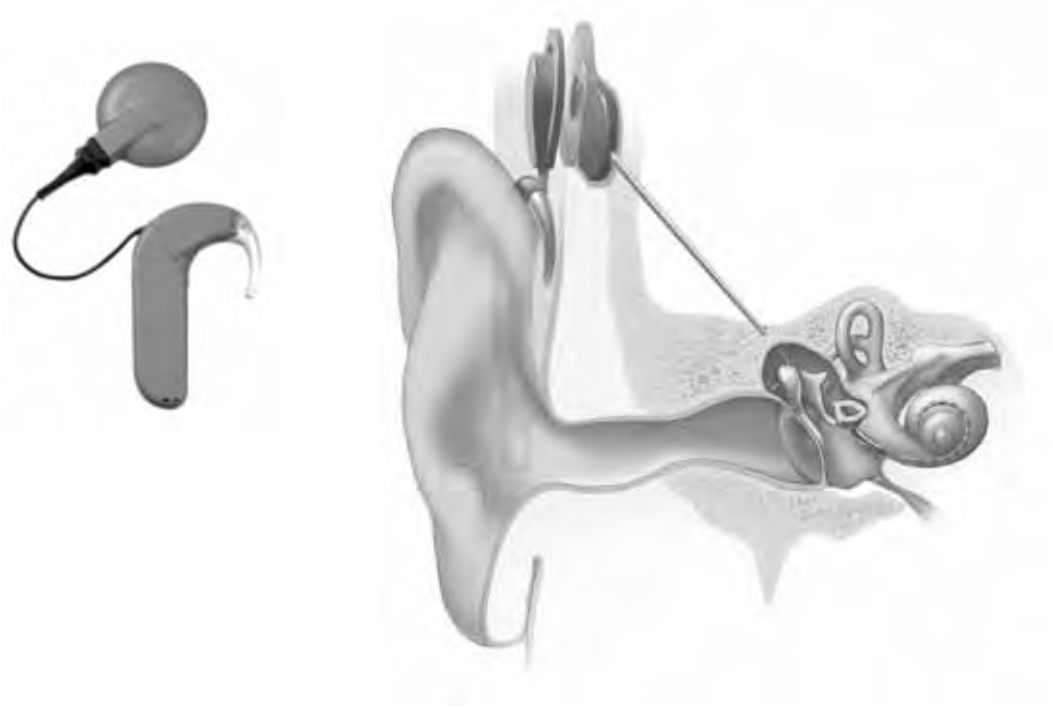
THE INCREDIBLE EAR

HANDOUT #5

HEARING AIDS AND COCHLEAR IMPLANTS

Cochlear Implants

While regular hearing aids make sounds louder and clearer, a cochlear implant actually gives a sense of sound to a person who is profoundly deaf or severely hard of hearing. It's a small, complex electronic device surgically implanted in the ear. It electronically finds useful sounds and sends them to the brain. The brain then interprets the information into sounds the person can understand and use. Some people may even understand speech, thanks to a cochlear implant.



THE INCREDIBLE EAR

HANDOUT #6

HEARING AIDS AND COCHLEAR IMPLANTS

Completely in the Canal Hearing Aid

Digital Hearing Aid
Programmable Hearing Aid
Conventional/Analog Hearing Aid

In the Ear Hearing Aid

Digital Hearing Aid
Programmable Hearing Aid
Conventional/Analog Hearing Aid

Behind the Ear Hearing Aid

Digital Hearing Aid
Programmable Hearing Aid
Conventional/Analog Hearing Aid

Over the Ear Hearing Aid

Open Fit Hearing Aid

Cochlear Implant

None, as this is a surgical implant within the cochlea in the inner ear.

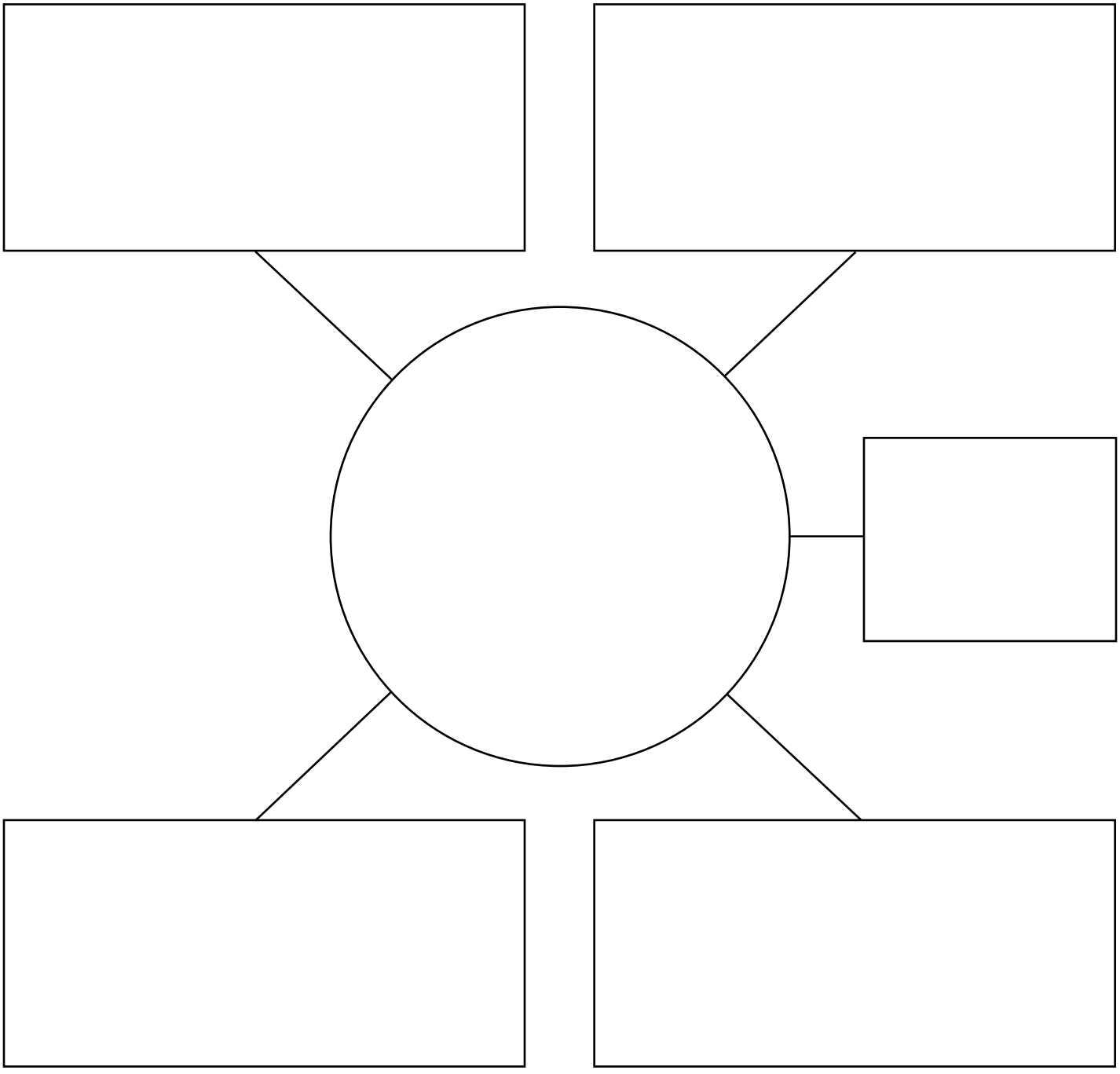
THE INCREDIBLE EAR

HANDOUT #7

HEARING AIDS AND COCHLEAR IMPLANTS

Group Notes

Use this worksheet to record the information your group will share with the class. Put the main point in the center circle and supporting information in the rectangles around the circle.

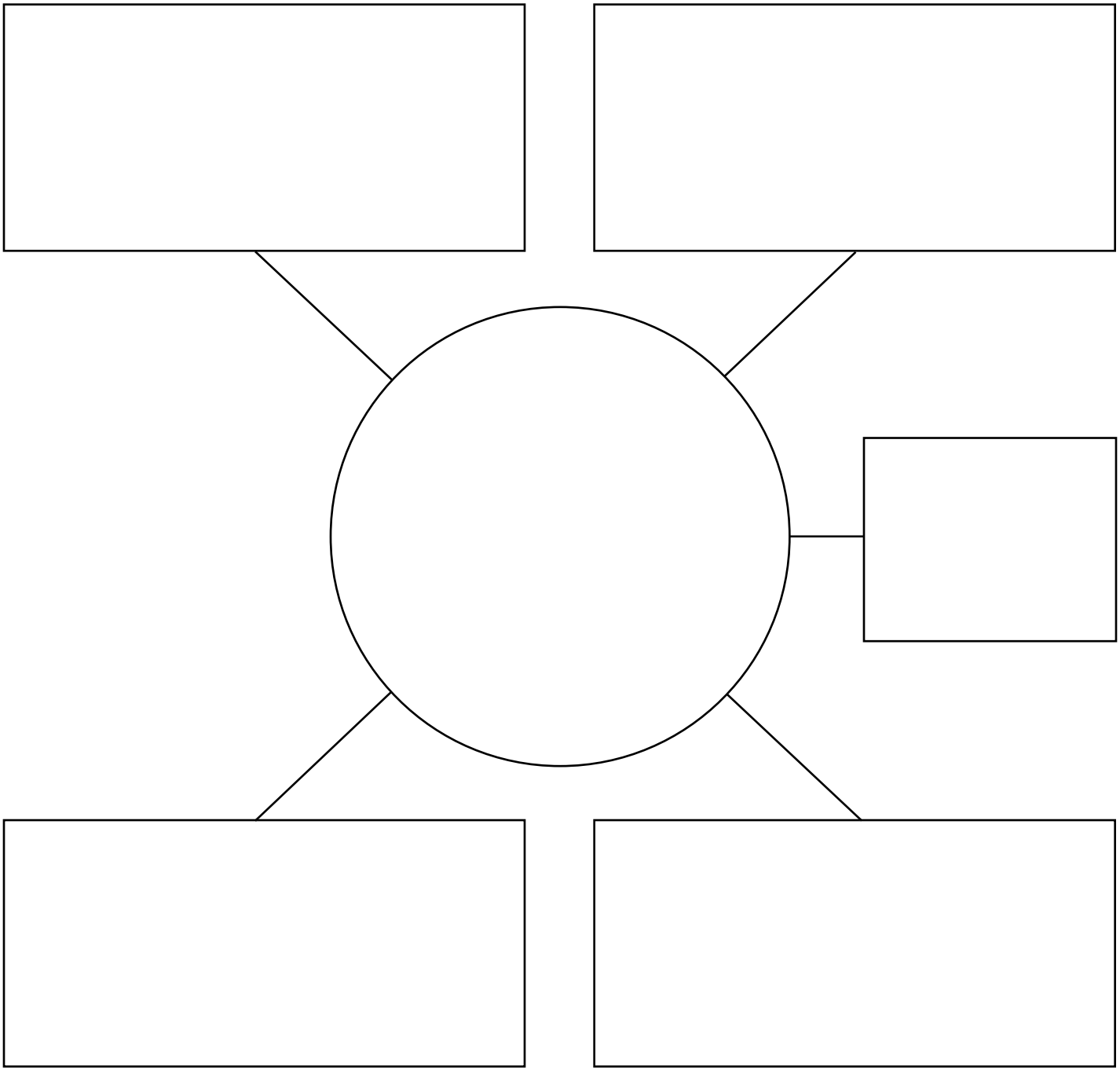


THE INCREDIBLE EAR

OVERHEAD TRANSPARENCY #2

HEARING AIDS AND COCHLEAR IMPLANTS

Group Notes



THE INCREDIBLE EAR

HANDOUT #8

HEARING AIDS AND COCHLEAR IMPLANTS

Hearing Aids

Fill in this chart with the information you learned about hearing technology.

TYPE OF HEARING AID	DESCRIPTION	ADVANTAGES	DISADVANTAGES

THE INCREDIBLE EAR

COMMUNICATION

WAMWAITAMINUTE **FYI**FORYOURINFORMATION **TBH**TOBEHONEST

A DAY IN MY LIFE – Deaf and Proud

By: Darius M.
Grade 7

I am a deaf boy. I have friends that are deaf and hearing. In my house, I can't hear. My doorbell has a light and I use a TTY to talk on the phone.

My family has taught me how to use my voice a little bit. I enjoy coming to school, learning, and communicating with my friends and teachers.

When I go to the doctor, the doctor will ask me, "What's wrong? Are you sick? Do you have a disease?" I tell the doctor I cannot talk because I am hard of hearing. I have to write to the doctor and he writes back to me. I am lucky because my doctor knows a little bit of sign language.

I also enjoy playing basketball with my friends. Sometimes we play games together such as video games. I go to watch movies and my family will sometimes write to me to tell me what's happening or fingerspell to me.

I am proud because I can communicate through sign language. I am also proud because I am getting an education. I am proud because I go to school and I have grown up there and I can do many, many things.

SUBJECT
Language Arts, Science

LESSON TOPIC
Moses Goes to a Concert, by Isaac Millman

TIME
One 45-minute period

YIUYESIUNDERSTAND **WTG**WAYTOGO **STW**SEARCHTHEWEB

Program Outcome(s)/Goal(s)/Expectation(s)

LANGUAGE ARTS
The student will be able to:
- Define a list of vocabulary related to the story, given by the teacher
- Summarize the story in both sign (orally) and writing
- Identify the author's purpose: inform, entertain, motivate

SCIENCE
- Demonstrate sound and how it travels

Materials Needed
- Book: *Moses Goes to a Concert*
- Teacher-created vocabulary list
- Balloons
- Small strips of paper
- Musical instruments or stereo system and music CD
- Teacher Resources

INSTRUCTIONAL DELIVERY

Procedure

LANGUAGE ARTS

1. Introduce the vocabulary to the class and identify the definition.
2. Introduce the signs for each vocabulary word.
3. As a class, read the story about Moses attending a musical concert.
4. Review the ASL signs in the book with the class.
5. Summarize the events in the story and have the children retell the story in their own words.
6. Add a written summary to their writing journals or use as a separate writing activity.
7. Discuss the author's purpose for the story. Was it to entertain, inform or motivate? Is it possible to have more than one purpose for this story?

SCIENCE

1. Introduce the class to the concept of sound and sound waves.
2. Explain that sound travels using sound waves and that we feel these waves as vibrations when they hit objects.
3. Explain that they will do an experiment today that will demonstrate how this occurs.
4. Connect the story: In the story, Moses's teacher gives each class member a balloon so that they can feel the vibrations of the music. Explain that the students will try a similar experiment to see if they can feel the music as well.
5. Separate the students into smaller groups or perform the experiment as a class.
6. Give each group a balloon and small strips of paper.
7. Ask the students to blow up the balloons and tie off the ends.
8. Tell the students to place a strip of paper on the top of each balloon.
9. Have the students play the instruments or music near the balloons and observe what happens to the paper.
10. Have each student take a turn holding the balloon to feel the vibrations of the music through the balloon. (Connect to the story.)
11. Tell the students to record their observations in a science journal or lab paper created by the teacher.
12. Discuss as a class what happened to the paper and why. Explain that the paper on the balloon moves because the sound waves are causing vibrations.
13. Discuss how the balloon felt while each student was holding it near the source of the sound. How can we tell sound waves are traveling through the air?
14. Note: A similar experiment can also be performed using a bowl of water and a spoon. The students hit the side of the bowl with the spoon and observe the ripples created. These ripples simulate sound waves.

Assessment/Evaluation

1. Teacher observations.
2. Writing assignments in Language Arts.
3. Science journal or lab paper.

SUBJECT
Hearing Loss Awareness

LESSON TOPIC
History of Sign Language

TIME
One 45-minute period

RMEROLLINGMYEYES **AFAIK**ASFARASIKNOW **BTR**BETTER

Program Outcome(s)/Goal(s)/Expectation(s)
Students will demonstrate the ability to read/communicate for a variety of purposes and respond through global understanding, interpretation, personal response and critical stance.

Program Indicator(s)
Students will develop interpretation skills when reading to be informed.

Student Outcome(s):
Students will sequence historical events using expository text and summarize information after reading.

Context for Learning
The students will learn that there are different ways to communicate. They will discover that fingerspelling is not the only way to sign a message to someone else. Using articles and resources about the history of sign language, students will learn the sequence of historical events that have led to the style of sign language used today.

Materials Needed
- Manual Alphabet (Handout #1)
- History of Sign Language (Handout #2)
- Timeline of Events (Handout #3)
- Research Sheet (Handout #4)
- Teacher Resources

INSTRUCTIONAL DELIVERY

Opening Activities

Ask students how two people communicate their feelings to each other about a certain situation (i.e., they would talk to each other). Then ask if anyone knows how people with hearing loss communicate (i.e., they use sign language, write notes to each other, read lips). Explain that today the students are going to try to communicate using sign language.

Procedure

1. Read student outcomes together.
2. Pass out the Manual Alphabet (Handout #1) and post the Sign Language poster provided in the kit. Allow students to practice fingerspelling a word to their neighbor. Ask if they think this is a convenient method of communicating.
3. Explain that fingerspelling is only a part of sign language (spelling every word one needed to say would take too long). There is a visual system of signs called American Sign Language (ASL), which is a living language.
4. Tell students that now they will read the History of Sign Language (Handout #2) and complete a Timeline of Events (Handout #3).
5. Have students read with a partner and complete the timeline.
6. Enrichment Activity: Work with a partner using Encarta or other reference materials to complete the Research Sheet (Handout #4), reporting on one of the people discussed in the History of Sign Language (Handout #2).

Assessment/Evaluation

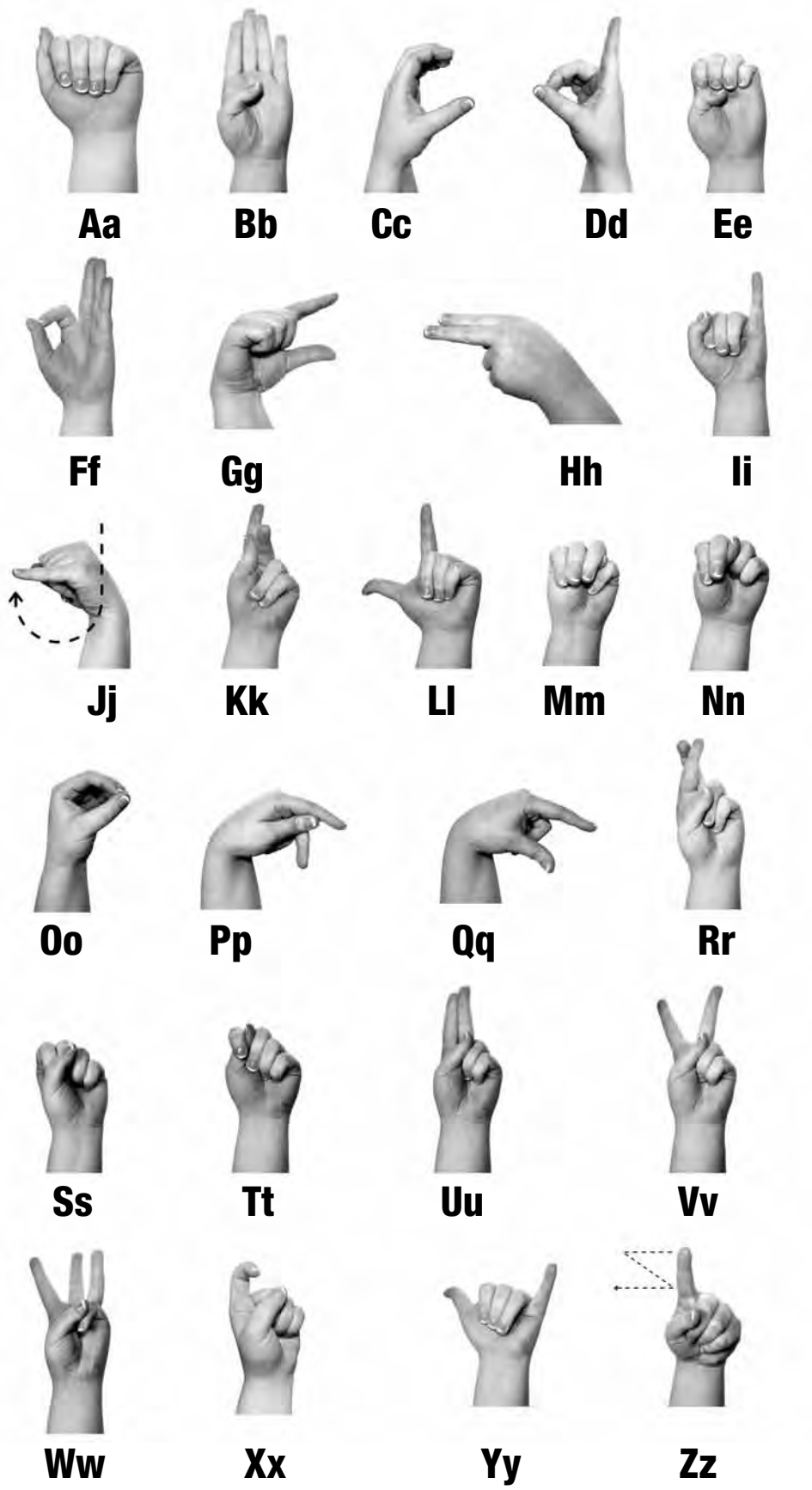
Have students summarize what they learned about the history of sign language.

Closure

Share a few summaries with the class and have students think about new signs needed for the future. Explain that as our spoken language changes, the need for new signs also develops. (Examples: during the past couple of decades, signs were developed for microwaves, beepers, computers, email and the Internet.)

HANDOUT #1

MANUAL ALPHABET



COMMUNICATION

HANDOUT #2

HISTORY OF SIGN LANGUAGE

No one really knows when and where sign language began. Possibly, sign language was used many, many years ago, before people knew how to communicate using speech. Once people began speaking, sign language was used less and less.

A long time ago, people who were deaf used sign language, but they had no schools to attend. Sign language was probably only known by small groups of people who were deaf and lived close together.

The first person we know who used sign language to teach deaf students was Pedro Ponce de Leon of Spain in 1500. Ponce de Leon was a monk. Monks take a vow of silence and do not talk while they are in the monastery. Over many years, they developed a series of signs that they used for everyday conversation. One day, two boys who were deaf went to the monastery, and Ponce de Leon had to teach them. He first taught them sign language and fingerspelling. He taught the boys to read and write, and later they learned to speak. He was the first known teacher of children who were deaf.

During the 1600's, another Spanish man, Juan Pablo Bonet, taught a boy who was deaf. Bonet wrote a book about teaching and included a one-hand manual alphabet in the book.

Thomas Hopkins Gallaudet lived in Hartford, Connecticut. In 1814, he met a young girl who was deaf and wanted to teach her. He was sent to England and France to learn how to teach people who were deaf. Gallaudet came back to Hartford to start a school for students who were deaf. He knew that he could not run the school alone. He brought a teacher who was deaf from Paris, Laurent Clerc, to help start the school.

Gallaudet and Clerc opened the school on April 15, 1817. The school is now known as the American School for the Deaf. Gallaudet and Clerc used sign language to teach the children and trained many teachers in this method. The sign language that Gallaudet and Clerc brought to America spread as new teachers went to different states to start schools.

Many people who were deaf and lived in America already had their own system of signs at this time. When children who were deaf entered any of the new schools, they learned new signs, but they also taught their own signs to other students. Gradually, over many years, American Sign Language developed. Today, there are some differences in the signs used in various parts of the country, but the differences do not prevent people who are deaf from understanding each other. American Sign Language is a living language. With the development of technologies and the need to have signs for new words, people who are deaf are adding new signs all the time.

HANDOUT #3

HISTORY OF SIGN LANGUAGE

Timeline of Events

Many years ago, _____

_____

_____

The first person to use sign language to teach was _____

_____

_____

During the 1600's, _____

_____

_____

The first School for the Deaf was _____

_____

_____

In 1817, _____

_____

_____

American Sign Language developed _____

_____

_____

COMMUNICATION

HANDOUT #4

HISTORY OF SIGN LANGUAGE

Name: _____ Date: _____

A research report needs careful planning. Use this Research Sheet before you begin your report.

The topic of my report will be: _____

_____

Questions my report will answer:

1. _____

2. _____

3. _____

Source(s) I will use:

_____

_____

_____

Notes:

_____

_____

_____

_____

_____

_____

COMMUNICATION

SUBJECT
Hearing Loss Awareness

LESSON TOPIC
Sign Language

TIME
One 45-minute period

F2FFACE-TO-FACE **NAGI**NOTAGOODIDEA **QIX**QUICK

Program Outcome(s)/Goal(s)/Expectation(s)
Students will demonstrate a variety of strategies to construct, examine and extend meaning.

Program Indicator(s)
Students will employ a variety of techniques to expand vocabulary.

Student Outcome(s)
Students will demonstrate the ability to use and interpret signs as a form of communication.
Students will write to inform.

Context for Learning
Students are already familiar with fingerspelling as a form of communication for people who are deaf. Now they will discover a better way to hold a conversation.

Materials Needed
- Lip Reading Experiment (Teacher Resource Sheet)
- Picture Signs (Handout #1)
- My Journal (Handout #2)
- Teacher Resources

INSTRUCTIONAL DELIVERY

Opening Activities/Motivation

Ask students to think of another way people who are deaf could communicate. They may say that people who are deaf could read lips. Remind them that American Sign Language is another form of communication. American Sign Language has been around for many, many years. In America it is the language of the culture of people who are deaf. Sign language varies around the world, just like spoken language.

Procedure

1. Review the student outcome.
2. Conduct an experiment using lipreading as a form of communication (Teacher Resource). Explain that lipreading and speechreading mean the same thing.
3. Show some signs (reference Handout #1) and have students predict what they are and learn to sign the fun way.
4. Have students work in pairs to use signs to communicate. They should take turns using the signs (Handout #1).
5. Pass out My Journal (Handout #2). Have students write a journal entry explaining the benefits of using sign language.
6. Enrichment Activity: Have students work in groups to role play situations using gestures only. Examples: Invite another child to play kickball or tell an adult that you want to go to the movies with a friend.

Assessment/Evaluation

Teacher observation and the journal.

Closure

Share entries from My Journal (Handout #2).

LIPREADING EXPERIMENT

The teacher will mouth the pairs of sentences and have students try to read lips to tell what was said.

1. Do you like fried eggs?
   Do you like Fridays?

2. I love you.
   Olive oil.

3. Call Mom.
   Call Bob.

4. You owe me 15 dollars.
   You owe me 50 dollars.

Students should conclude that lip readers need context to understand. Research has shown that only about one-third of a conversation is understood by lipreading because many speech sounds have identical mouth movements.

FOLLOW-UP

Have students imagine sitting in a classroom and hearing only some of what the teacher said.

HANDOUT #1

SIGN LANGUAGE

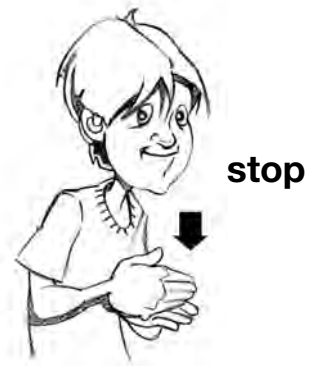
Picture Signs

Place the right closed hand on the left flat palm and lift both hands together.

Move the thumb and fingers of the right C hand down the center of the chest from below the throat.

Hold both Y hands in front of the chest and twist them up and down a few times.

Move the right hand toward the mouth a few times.



Bring the little finger side of the right hand sharply at right angles on the left palm.

Move the right T hand back and forth sideways.

Hold both closed or flat hands over the heart, with the palms facing in.

Move the right C hand in a short arch toward the mouth.

Interlock the right and left index fingers and repeat in reverse.

COMMUNICATION

HANDOUT #2

SIGN LANGUAGE

My Journal

Explain the benefits of sign language.

Name: _____

COMMUNICATION

SUBJECT
Hearing Loss Awareness

LESSON TOPIC
Learning About Cued Speech

TIME
One 60-minute period

CIDCONSIDERITDONE **ETA**ESTIMATEDTIMEOFARRIVAL

Program Outcome(s)/Goal(s)/Expectation(s)
Students will demonstrate their ability to read for a variety of purposes and respond through global understanding, interpretation, personal response and critical stance.

Program Indicator(s)
Students will gain information from a variety of sources/cues when reading to be informed or reading to perform a task.

Student Outcome(s)
Students will increase their knowledge of cued speech by reading to be informed and identifying and using the eight handshapes and specific sites around the lower face to communicate.

Context for Learning
Students have been learning about different methods of communication such as using signs, lipreading and wearing hearing aids. Today they will learn about cued speech, another way people with hearing loss may communicate. After some reading and discussion, students will work in pairs to practice the cues.

Materials Needed
- Definition of Cued Speech – transparency (Teacher Resource Sheet)
- Visual Cues for Consonants and Vowels (Handout #1)
- What is Cued Speech? (Handout #2)
- Worksheet (Handout #3)
- Teacher Resources

INSTRUCTIONAL DELIVERY

Opening Activities/Motivation

Ask students to explain what "cue" means. Discuss how cues help actors and actresses remember their lines. Now ask students to think of the meaning for "cued speech." After some responses, put the definition on the overhead (Transparency #1).

Procedure

1. Read student outcome together.
2. Ask students to highlight key words in the definition.
3. Pass out Visual Cues (Handout #1) and go over each handshape and each site around the lower face, called placements.
4. Have students practice as you review each cue.
5. Group students in pairs to practice the cues with a partner.

Assessment/Evaluation

Have students complete the paragraph about cued speech.

Closure

Summarize what students learned about cued speech.

CUED SPEECH

Cued Speech is a visual communication system that uses eight handshapes in many locations (cues) in combination with the natural mouth movements of speech.

Cued American English Consonant Handshapes *

/d/ does
/p/ Paul
/zh/ measure

/k/ cats
/v/ vote
/th/ there
/z/ zinc

/h/ he
/s/ saw
/r/ rats

/b/ be
/n/ no
/hw/ where

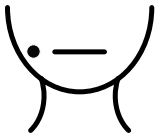
/m/ my
/f/ feet
/t/ tickle

/l/ Lee
/w/ was
/sh/ shy

/g/ go
/j/ jump
/xh/ through

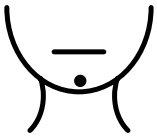
/ng/ ring
/y/ your
/ch/ chime

Cued American English Vowel Placements *



Mouth

/ee/ see
/er/ her



Chin

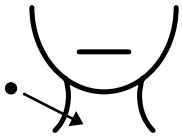
/ue/ you
/aw/ saw
/e/ Ned

Throat

/oo/ cook
/i/ his
/a/ apple

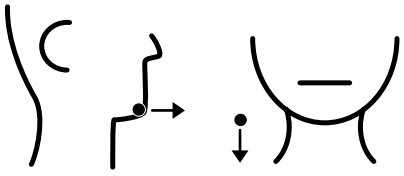
Chin-Throat Dipthong

/aw/-/i/ hoist
e-/i/ sails



Side-Throat Dipthong

/ah/-/i/ my
/ah/-/oo/ cow



Side-Forward **Side-Down**
(both start 3-4 inches to side of chin)
/oh/ go
/ah/ father
/uh/ up

*Mouthshapes accompany all handshapes and placements.

Artwork supplied by Language Matters
(see Resource Guide)

OVERHEAD TRANSPARENCY #1

LEARNING ABOUT CUED SPEECH

Cued Speech is a visual communication system that uses eight handshapes in many locations (cues) in combination with the natural mouth movements of speech.

Cued American English Consonant Handshapes *

/d/ does
/p/ Paul
/zh/ measure

/k/ cats
/v/ vote
/th/ there
/z/ zinc

/h/ he
/s/ saw
/r/ rats

/b/ be
/n/ no
/hw/ where

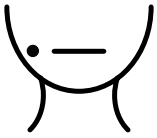
/m/ my
/f/ feet
/t/ tickle

/l/ Lee
/w/ was
/sh/ shy

/g/ go
/j/ jump
/xh/ through

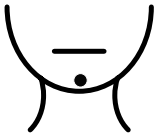
/ng/ ring
/y/ your
/ch/ chime

Cued American English Vowel Placements *



Mouth

/ee/ see
/er/ her

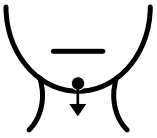


Chin

/ue/ you
/aw/ saw
/e/ Ned

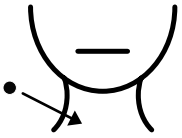
Throat

/oo/ cook
/i/ his
/a/ apple



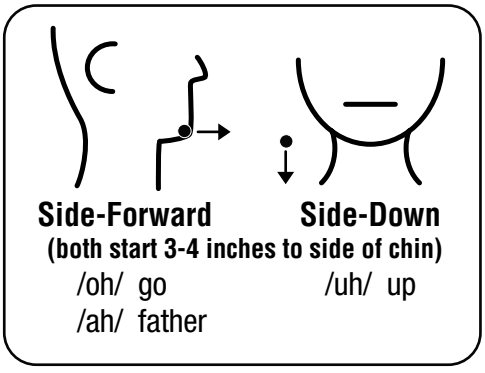
Chin-Throat Dipthong

/aw/-/i/ hoist
e-/i/ sails



Side-Throat Dipthong

/ah/-/i/ my
/ah/-/oo/ cow



Side-Forward **Side-Down**
(both start 3-4 inches to side of chin)
/oh/ go /uh/ up
/ah/ father

*Mouthshapes accompany all handshapes and placements.

Artwork supplied by Language Matters
(see Resource Guide)

COMMUNICATION

CUED SPEECH AND LITERACY: A Quick Overview of Cued Speech

DEVELOPMENT OF CUED SPEECH

Dr. R. Orin Cornett developed the system in 1965-1966...

- with the primary goal of improving literacy.
- to overcome the problem of accessing spoken language.
- to provide access to the phonemes of language through vision, using the information from the mouth and one hand.

CUED SPEECH FACTS

Cued Speech was developed to aid the acquisition of literacy skills in deaf students. Cued Speech...

- does NOT require any hearing or speech.
- is NOT a language.
- is a closed system adapted to more than 60 languages and dialects.
- DOES show the phonemes (consonants and vowels) of spoken languages visually.
- requires synchronization of both the hand and mouth to send a complete message.
- IS a visual mode of communication.

ADVANTAGES OF CUED AMERICAN ENGLISH

Cuers who are deaf or hard-of-hearing meet or surpass hearing peers in linguistic competence. These cuers...

- can acquire and use the same language other family members use at home.
- receive visual access to English from their transliterators; therefore, they do not rely on interpretation.
- have English skills that match the skills of their hearing peers.
- have an accurate phonological model of a spoken language.
- can learn foreign languages as easily as hearing children.

DEAF COMMUNITY

Cuers can be members of the deaf community. These cuers are like signers who are deaf because...

- they use a visual form of communication.
- speech is not necessary for communication.
- a majority learn to sign fluently.
- they use any of a variety of assisting devices.

HEARING COMMUNITY

Cuers can be members of the hearing community. Cuers who are deaf or hard-of-hearing are like adults who are oral/aural because...

- English is their first language.
- they use speech, speechreading, and/or listening with hearing individuals.
- they use any of a variety of assisting devices.

Author: Amy Ruberl

www.cuedspeech.org

HANDOUT #1

LEARNING ABOUT CUED SPEECH

VISUAL CUES FOR CONSONANTS AND VOWELS

Cued American English Consonant Handshapes *

/d/ does
/p/ Paul
/zh/ measure

/k/ cats
/v/ vote
/th/ there
/z/ zinc

/h/ he
/s/ saw
/r/ rats

/b/ be
/n/ no
/hw/ where

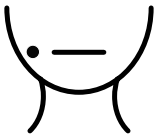
/m/ my
/f/ feet
/t/ tickle

/l/ Lee
/w/ was
/sh/ shy

/g/ go
/j/ jump
/xh/ through

/ng/ ring
/y/ your
/ch/ chime

Cued American English Vowel Placements *



Mouth

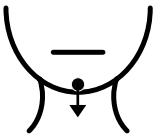
/ee/ see
/er/ her

Chin

/ue/ you
/aw/ saw
/e/ Ned

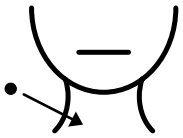
Throat

/oo/ cook
/i/ his
/a/ apple



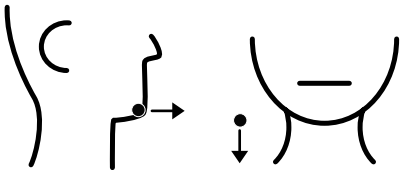
Chin-Throat Dipthong

/aw/-/i/ hoist
e-/i/ sails



Side-Throat Dipthong

/ah/-/i/ my
/ah/-/oo/ cow



Side-Forward **Side-Down**
(both start 3-4 inches to side of chin)
/oh/ go /uh/ up
/ah/ father

*Mouthshapes accompany all handshapes and placements.

Artwork supplied by Language Matters
(see Resource Guide)

COMMUNICATION

HANDOUT #2

LEARNING ABOUT CUED SPEECH

What is Cued Speech?

Cued Speech…

- Is a visual communication system that uses eight handshapes in many locations (cues) in combination with the natural mouth movements of speech.
- Identifies each distinctive speech sound. Shapes of the hand identify consonant sounds, and locations near the mouth identify vowel sounds.
- Uses a handshape and a location together to cue a syllable.
- Was developed in 1966 by R. Orin Cornett at Gallaudet University in Washington, D.C.
- Can be used to facilitate communication with people with speech, hearing and language needs.
- Allows a person who is deaf to “see” all the sounds that hearing people hear.
- Is useful for children with other problems, such as learning disabilities or vision impairment.
- Can be a useful language/speech tool for hearing children too.

COMMUNICATION

HANDOUT #3

LEARNING ABOUT CUED SPEECH

Name: _____ Date: _____

Cued Speech

DIRECTIONS: Use the Word Bank below to complete the paragraph.

_____ _____ is a communication system that uses eight _____ in _____ locations in combination with the natural mouth movements of speech. A handshape and a location together cue a _____. Many people such as _____, _____ and _____ _____ used cued speech. Cued speech allows a person who is _____ to see all the sounds that hearing people hear. Dr. R. Orin Cornett invented cued speech in 1966 while at _____ University as a solution to the reading barriers facing people who are deaf.

WORD BANK

interpreters	Gallaudet
cued	adults
speech	deaf
handshapes	children
many	syllable

COMMUNICATION

SUBJECT
Communication

LESSON TOPIC
Hearing Loss Awareness

TIME
One 60-minute period

SOLSOONERORLATER **MTF**MORETOFOLLOW **CU**SEEYOU

Program Outcome(s)/Goal(s)/Expectation(s)
Students will demonstrate their ability to read for a variety of purposes and respond through global understanding, interpretation, personal response and critical stance.

Program Indicator(s)
Students will develop global understanding when reading to be informed.

Student Outcome(s)
Students will identify details of expository text and summarize information in a paragraph.

Context for Learning
The students are learning about different methods of communication. Today they will learn how people with hearing loss communicate through an interpreter.

Materials Needed
- *Using an Interpreter* article (Handout #1)
- Information Web (Handout #2)
- Web Transparency (Teacher Resource Sheet)
- Learning Log (Handout #3)
- Teacher Resources

INSTRUCTIONAL DELIVERY

Opening Activities/Motivation

Have students role play a situation where they must interpret several sentences for a person with hearing loss. The teacher may provide earplugs and tie in ear safety. (Earplugs may be obtained through Relay NC Customer Service, a drug store or other shopping outlet.) Allow some discussion after role-playing. Explain that interpreters are used in many different situations. For example, there are foreign language interpreters, sign language interpreters and oral interpreters.

Procedure

1. Read student outcome together.
2. Have students read the article, *Using an Interpreter* (Handout #1).
3. After reading the article, students should go back and find important details to list on the Information Web (Handout #2).
4. Share details with the whole class (Use web transparency – Teacher Resource Sheet).
5. Distinguish between a professional interpreter and a signer. A professional interpreter should…
   - have academic training,
   - have obtained certification from an organization such as NAD (National Association for the Deaf) or RID (Registry of Interpreters for the Deaf), and
   - have at least three years of field experience.

A signer is a person who knows sign language but is not recognized as a professional interpreter.

Assessment/Evaluation

Students will use the Information Web to write a paragraph in their *Learning Log* (Handout #3) summarizing the article *Using an Interpreter*.

Closure

Have some students share their paragraphs.

HANDOUT #1

HEARING LOSS AWARENESS

Using an Interpreter

Sometimes people who are deaf use another person, called an interpreter, to facilitate communication with people who hear. An interpreter functions as the ears of a person who is deaf and, sometimes, as the voice of a person who is deaf. The interpreter listens and lets the person who is deaf know what is spoken by all of the people in the room. If a person who is deaf chooses not to voice, the interpreter may also speak that person's message.

There are different kinds of interpreters. A Sign Language Interpreter presents the information in sign language. People who are deaf but do not know sign language may use an Oral Interpreter, who repeats the speaker's words without using voice. People who are deaf and use oral interpreters are actually speech-reading the interpreter. One type of oral interpreter is a Cued Speech Transliterator, who mouths the words and adds cues to facilitate speechreading (or lipreading).

Interpreters work in a variety of settings, including educational, legal, medical, cultural, social, religious, mental health, financial and occupational environments. You may see an interpreter signing a teacher's words in schools, or making theater performances accessible to those who are deaf in the audience. In almost any situation where communication occurs, interpreters can facilitate communication and understanding.

When an interpreter is used to facilitate communication, the person who hears can make the interaction more comfortable by following these simple guidelines:

1. Do speak directly to the person who is deaf (i.e., "Mr. Smith, which do you prefer?"), not to the interpreter (i.e., "Ask him which he prefers.").
2. Don't ask the interpreter to omit something you have said. The interpreter is not an editor and will sign everything that is said in exactly the same manner it is presented.
3. Do recognize that the information discussed is confidential or private.
4. Don't ask the interpreter to interject personal opinions. The interpreter is present only to facilitate communication between the people who are deaf and hearing.
5. Do provide good lighting and occasional breaks. When the interpreting situation involves darkening the room to view slides or movies, use auxiliary lighting so that the person who is deaf can see the interpreter. Since watching an interpreter for a long time is tiring for a person who is deaf, and interpreting can be fatiguing for the interpreter, provide breaks once an hour.
6. When in doubt, ask the person who is deaf what is best.

COMMUNICATION

HANDOUT #2

HEARING LOSS AWARENESS

Information Web

Fill the spaces in this chart with important facts about using an interpreter.

USING AN INTERPRETER

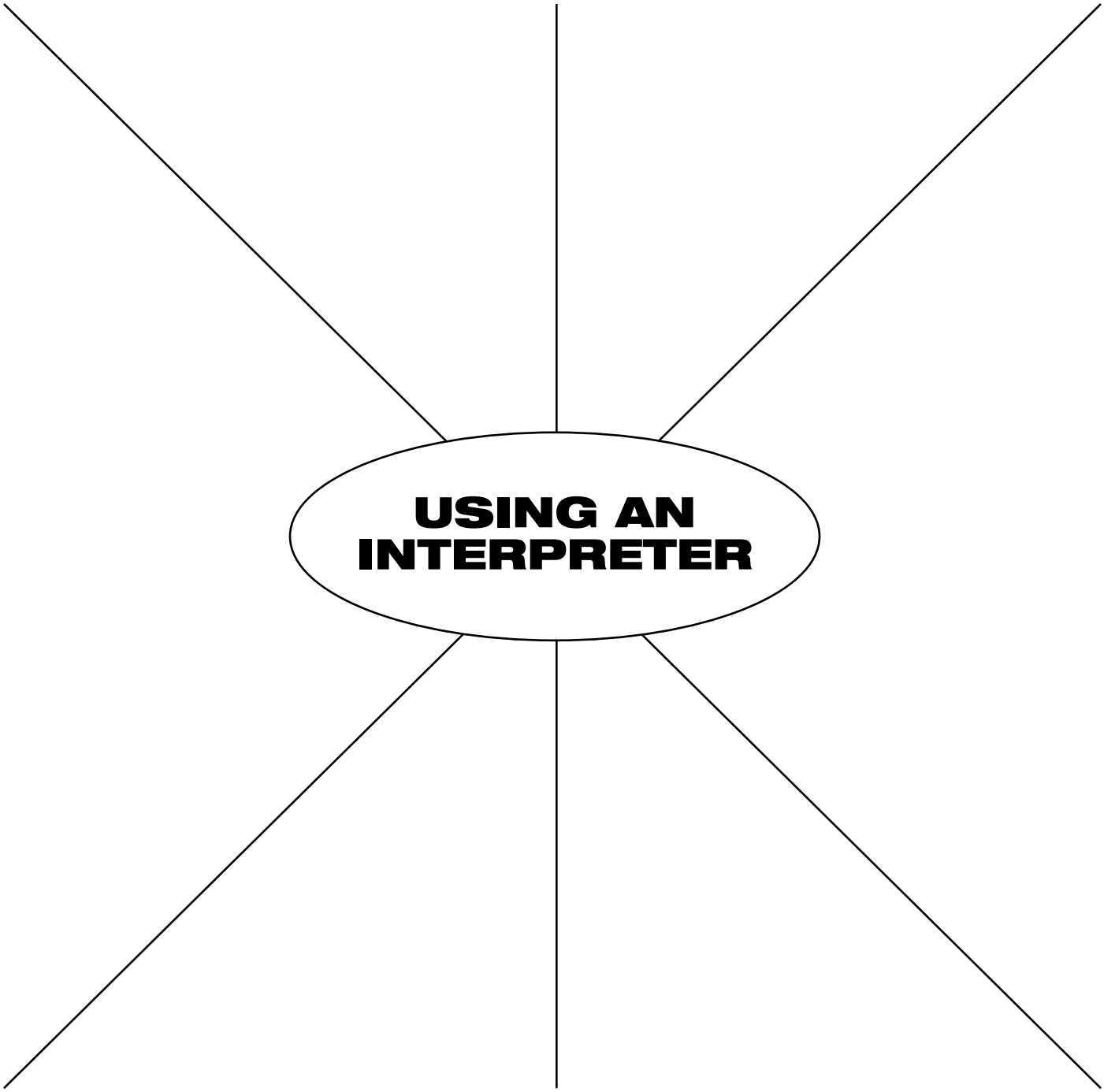
COMMUNICATION

OVERHEAD TRANSPARENCY #1

HEARING LOSS AWARENESS

Information Web

Fill the spaces in this chart with important facts about using an interpreter.



COMMUNICATION

HANDOUT #3

HEARING LOSS AWARENESS

Learning Log

Use the facts from your Information Web to write a paragraph summarizing the article on *Using an Interpreter*.

Today I

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Yours Truly, _____

Date _____

COMMUNICATION

TIPS FOR COMMUNICATING WITH PEOPLE WITH HEARING LOSS

- First, to get the person's attention:
  - Tap gently two or three times on the shoulder
  - Wave
  - Flash lights in the room
- Ask the person how he or she wants to communicate.
- Use eye contact with the person.
- Write notes (simple words).
- Use facial expressions and gestures.
- Use an interpreter.

FREQUENTLY ASKED QUESTIONS

How long does it take to learn sign language?
It depends on the individual's level of immersion and interaction. No two individuals are alike. Everyone learns at a different pace.

Do deaf people accept hearing people learning sign language?
Yes. Sign language is popular and in high demand within the United States.

Can deaf people drive? How do deaf people communicate while driving?
Yes. Deaf people are considered safe drivers and are very observant of other cars.

Can deaf people read lips?
Yes and no. It depends on each individual. Ask the deaf individual first.

Can deaf people have kids?
Yes. Deaf people can do anything but hear.

Will deaf people have deaf kids?
Only 10% of deaf parents have deaf kids – 90% do not.

Can deaf people work?
Yes. Deaf people are just like anyone else. Many are doctors, dentists, teachers, directors, preachers, counselors, principals – the list goes on and on.

Can deaf people talk on the phone?
Yes. See the *Technology* and *Relay* chapters of this curriculum.

Why do deaf people move their hands?
They use hands to talk in sign language.

Why do deaf people move their faces?
A facial expression is a form of communication.

Why do deaf people tap other deaf people's shoulders?
They tap to get their attention.

Why do deaf people need an interpreter?
Some deaf people need an interpreter to understand and participate in their surroundings.

How do deaf people watch TV and movies?
Deaf people watch TV and movies using a system called Closed captioning/subtitles, which "types" the words being said directly on the screen. Deaf people "read" TV and movies.

WHAT IS DEAF CULTURE?

Deaf culture is the cluster of values, attitudes, perceptions, customs, beliefs, and knowledge that deaf people use to relate to others, interpret experiences and situations, and behave in society.

Deaf culture has an impact on everything a deaf person feels and does – from business transactions and family dynamics to educational success and self-esteem. Hearing people's cultural assumptions are so deeply rooted that they are referred to as common sense. However, these apparently common sense assumptions need to be looked at if there is to be an understanding of how your cultural expectations may be in conflict with those of deaf people.

The deaf culture, as a "multicultural and multilingual group," is like any other culture; it has its own language, values, rules of behavior and traditions.

LANGUAGE

Signs
Eyes, face and body movement
Fingerspelling
Gestures and mime

VALUES

Visual communication
Hands
Vibrations and light signals
Auxiliary aids and services

RULES OF BEHAVIOR

Eye contact
Touching to get attention
Ways of introducing people
Ways of applauding

TRADITIONS

Folklore
Jokes and humor
"Oral" history
Dances, skits and drama

GLOSSARY OF NEW TERMS

CULTURE/LANGUAGE

American Sign Language – A natural visual language using the hands, with its own vocabulary and grammar.

Cued Speech – A lipreading system.

Deaf – The proper word to use when you are referring to a person with a profound hearing loss.

Deaf Culture – The similar beliefs, customs and language shared by a group of people who are deaf.

Deaf–blind – A term that does not necessarily mean total lack of hearing and vision. Deaf – blind does mean that the combination of impairments interferes with the ability of a person to function effectively in the "hearing-sighted" world.

"Deaf and Dumb" or **"Deaf–mute"** – Highly offensive terms that should not be used.

Fingerspelling – Use of the hands and fingers to represent (spell) the letters of the alphabet for communicating with people who are deaf.

ALD (Assistive Listening Device)/FM System – An assistive listening system consisting of a transmitter microphone worn by the speaker and an FM receiver worn by the student with hearing loss, which can be used to help reduce the adverse effects of background noise and the distance between the speaker and listener.

Hard of Hearing (HOH) – Refers to a person who has lost some hearing ability.

Hearing Carry Over (HCO) – A system for people who have difficulty speaking clearly through the telephone and prefer to listen for themselves through Relay NC while typing their side of the conversation.

Lipreading – The ability to understand the oral language or speech of a person by observing lip movements and facial expressions. This skill is correctly referred to as speechreading. However, only about 30% of what a person says can be understood through speechreading.

Interpreter – A trained professional bound by a code of conduct, which includes strict confidentiality. The role of the interpreter is to facilitate communication only; the interpreter cannot add or delete any information at any time. The interpreter is trained to translate – change messages from sign language to Spoken English.

Pidgin Signed English (PSE) – A mix of ASL (American Sign Language) rules and English grammar. The signs used in PSE come from ASL, but they are not used in an ASL way, but rather in a more normal English pattern.

Signed Exact English (SEE) – A form of communication/instruction in which signs are used in exact English word order, with some additional signs for conventions such as the "ing" word ending.

Signer – A person who is able to communicate using sign language, but is not recognized as a professional interpreter.

Speech to Speech (STS) – A system for people with mild to moderate speech disability who have difficulty being understood clearly through the telephone. Using Relay NC and speaking for themselves, they communicate specially trained operators who re-voice their conversation to the other party.

GLOSSARY OF NEW TERMS CONTINUED

TECHNOLOGY

ALD (Assistive Listening Device) – Makes use of radio frequencies, light rays or magnetic inductive energy to transmit sound. Hardwired ALD use direct electrical connection to transmit the auditory signal.

CART-CAN – A system in which a typist uses software that converts the shorthand of the speech to written English through a personal computer, and the words appear on a screen visible to the audience.

CapTel® Relay Services – A service provided free of charge through Relay NC that uses a caption telephone. The service transcribes everything the other party says into written text (captions) using voice-recognition technology.

Closed Captioning – Also known as subtitles, allows people who are deaf or hard of hearing to read what is being said on TV, in movies or during presentations. Captions are hidden in the video signal, invisible without a special decoder.

Internet Relay – A service that allows deaf/hard of hearing individuals to place Relay calls using the Internet.

Relay North Carolina – A public service offered through the State of North Carolina that enables TTY users to communicate by telephone with any standard telephone users.

Relay North Carolina Operator – The person who connects the TTY user to the standard phone user and relays the conversation verbatim between the two parties.

Text Pagers – Email-based communication tools. They communicate to other pagers or computers using a vibrator to alert the users when a message arrives. Some pagers have extra service features such as live TTY chat, instant message chat, voice to text or text to voice, website browsing, direct connection to AAA or organizational tools (calendar, address book, calculator).

TTY (Text Telephone) – Allows people who are deaf, hard of hearing, and hearing or speech disabled to read telephone conversations on a lighted screen. A TTY looks very similar to a typewriter keypad except that it has a text screen.

Voice Carry Over (VCO) – A system for people who have difficulty hearing clearly through the telephone and prefer to speak for themselves through Relay NC.

Videophone – Introduces the world of video conferencing over the Internet to bring people – family, friends, and colleagues – together.

Weather Alert Radio – Warning system about bad weather, tornadoes and disasters for schools, businesses and home.

TECHNOLOGY

OTOHONTHEOTHERHAND **GL**GOODLUCK **IOOH**I'MOUTTAHERE

I LIKE WHO I AM

By: Martha E.
Grade 1

I go to first grade at N.C.S.D. (North Carolina School for the Deaf) in Morganton, North Carolina. My friends at school are deaf and hard of hearing. We can talk and sign. I like school because I like to learn and play with my friends. I am a good reader. I am a good student. My teacher thinks I am smart. She says I would be a good teacher.

I was born deaf. My mother and father are deaf too. I have a hearing sister and a deaf brother. My family talks with me in ASL. My brother is four years old. He is going to preschool now. He will come to my school next year. He is wild. He is stubborn. He will like my school, but he will have to behave.

I wear a hearing aid. It works very well. It has a setting for using the telephone to call my grandmother. I got my hearing aid when I was five before I came to school. I can hear sirens, burps, some speech and even some very soft sounds.

I wake up in the morning because I am hungry. My parents use an alarm clock with a lamp light flash to wake them up. When I wake up in the morning I like to watch Spongebob Squarepants. I read the captions. Spongebob is silly. He walks home. He lives in America.

At home we have a fire alarm strobe light. I have one in my bedroom. We have a light doorbell so we can know when friends are at the door. If you come to my house and the doorbell doesn't work you can knock and I will probably hear you.

We have a videophone to chat with our deaf friends. We can also use a phone and talk with a Relay interpreter to call my grandmothers.

I am proud to be deaf. I can do anything other children can do. I like who I am.

SUBJECT
Hearing Loss Awareness

LESSON TOPIC
Understanding Technology Options Available to People Who have a Hearing Loss

TIME
One 30-minute period

JTLUKJUSTTOLETYOUKNOW **IUSS**IFYOUSAYSO

Program Outcome(s)/Goal(s)/Expectation(s)
Students will understand various types of equipment used by people with hearing loss to communicate on the telephone, enjoy television, and live independently.

Program Indicator(s)
Technology helps people live independently.

Student Outcome(s)
Students will identify equipment and explain its function.

Context for Learning
Students should discuss barriers to communication and how technology plays an important role in helping people who are deaf, deaf–blind, hard of hearing and speech impaired achieve independence.

Materials Needed
- What is Text Messaging? (Handout #1)
- What is Captioning? (Handout #2)
- What is Instant Messaging? (Handout # 3)
- What is a Videophone? (Handout # 4)
- Alerting and Communicating Devices (Handout # 5)
- Teacher Resources

WHAT IS TEXT MESSAGING?

Text messaging is a way of communicating by sending and receiving short text messages on the phone. Usually, text messages are sent three ways: to a phone using a special email address, through the carrier's website, or with special messaging software and a modem.

Messages can be sent from one phone to another by addressing the message to the recipient's phone number. Most cell phones and carriers also allow messages to be sent from a phone directly to an email address.

Who uses text messaging?

Many people use text messaging. It's especially beneficial to those who can't hear on the telephone and are away from their regular home or office telephone and computer.

Advantages

- Easy to use
- Portable
- Fast
- Able to access the web and enables private conversations

WHAT IS CAPTIONING?

Closed captioning allows people with hearing disabilities to have access to television programming by displaying the audio portion of a television program as text on the television screen. Beginning in July 1993, the Federal Communications Commission (FCC) required that all analog television receivers with screens 13 inches or larger sold or manufactured in the United States contain built-in decoder circuitry to display closed captioning. Beginning July 2, 2002, the FCC required that digital television (DTV) receivers include closed captioning display capability. In 1996, Congress required video program distributors (cable operators, broadcasters, satellite distributors, and other multi-channel video programming distributors) to close caption their television programs.

Benefits of Closed Captioning

Closed captioning provides a critical link to news, entertainment, and information for individuals who are deaf or hard of hearing. For individuals whose native language is not English, English language captions improve comprehension and fluency. Captions also help improve literacy skills. You can turn on closed captions through your remote control or on-screen menu. The FCC does not regulate captioning of home videos, DVDs, or videos.

WHAT IS INSTANT MESSAGING?

Instant messaging is an online service that allows people to communicate in real time using their computers. Similar to email, users "talk" by typing text. Also known as chatting, the difference between instant messaging and email is that instant messaging happens immediately, with no delays. Most people think instant messaging is new, but, actually, it was available back in the 1960s for users of certain types of computers to communicate with each other. Today, instant messaging can include the use of webcams and microphones. Instant messaging is a Relay NC service that allows hearing callers to contact people who are deaf, hard of hearing, deaf-blind or speech disabled by sending a message to a screenname. A Relay NC Operator then relays the conversation between the two parties.

Advantages

- Efficient
- Effective
- Immediate

WHAT IS A VIDEOPHONE?

A videophone is a telephone with a camera that allows the user who is deaf or hard of hearing to communicate using ASL (American Sign Language). Here's how it works: the person who is deaf or hard of hearing makes a call using a videophone and uses ASL to "talk." A Relay Operator as part of the Video Relay Service translates the sign language into words so the hearing person on the other end of the phone call can understand (hear) what is being signed (said). Some mobile phones have video calling capabilities.

Advantages

- Easy
- Effective
- Low-cost & widespread if using a mobile phone with video calling capabilities

HANDOUT #1

UNDERSTANDING TECHNOLOGY

What is Text Messaging?

Text messaging is a way of communicating by sending and receiving short text messages on the phone. Usually, text messages are sent three ways: to a phone using a special email address, through the carrier's website, or with special messaging software and a modem.

Messages can be sent from one phone to another by addressing the message to the recipient's phone number.

Most cell phones and carriers also allow messages to be sent from a phone directly to an email address.

Who uses text messaging?

Many people use text messaging. It's especially beneficial to those who can't hear on the telephone and are away from their regular home or office telephone and computer.

Advantages

- Easy to use
- Portable
- Fast
- Can also access web information
- Allows private conversations

TECHNOLOGY

HANDOUT #2

UNDERSTANDING TECHNOLOGY

What is Captioning?

Background

Closed captioning allows people with hearing disabilities to have access to television programming by displaying the audio portion of a television program as text on the television screen. Beginning in July 1993, the Federal Communications Commission (FCC) required that all analog television receivers with screens 13 inches or larger sold or manufactured in the United States contain built-in decoder circuitry to display closed captioning. Beginning July 2, 2002, the FCC also required that digital television (DTV) receivers include closed captioning display capability.

In 1996, Congress required video program distributors (cable operators, broadcasters, satellite distributors, and other multi-channel video programming distributors) to close caption their television programs.

Benefits of Closed Captioning

Closed captioning provides a critical link to news, entertainment, and information for individuals who are deaf or hard of hearing. For individuals whose native language is not English, English language captions improve comprehension and fluency. Captions also help improve literacy skills. You can turn on closed captions through your remote control or on-screen menu. The FCC does not regulate captioning of home videos, DVDs, or videos.

*Information from: www.fcc.gov/cgb/consumerfacts/closedcaption.html

How do you know if a TV program, DVD, or Video has captioning?

Either of the symbols below will appear in the program listing or be on the product.

TECHNOLOGY

HANDOUT #3

UNDERSTANDING TECHNOLOGY

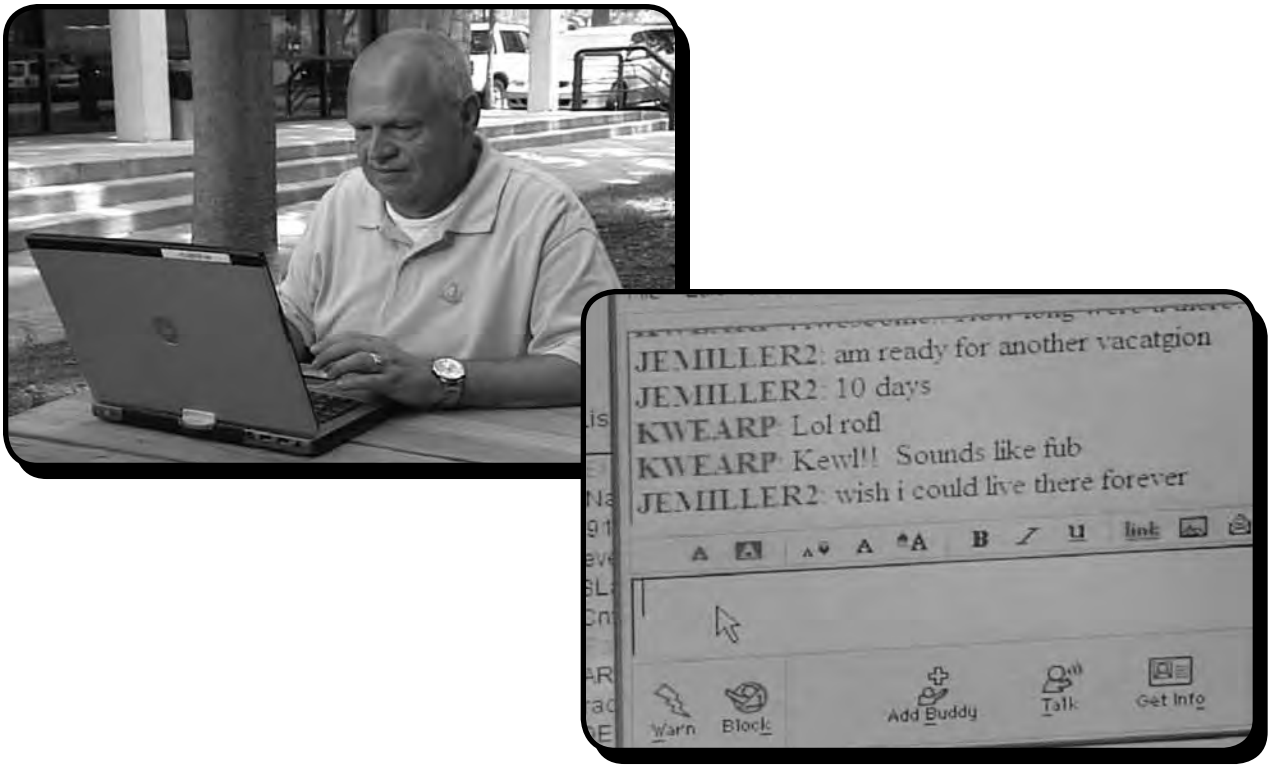
What is Instant Messaging?

Instant messaging is an online service that allows people to communicate in real time using their computers. Similar to email, users "talk" by typing text. Also known as chatting, the difference between instant messaging and email is that instant messaging happens immediately, with no delays. Most people think instant messaging is new, but, actually, it was available back in the 1960s for users of certain types of computers to communicate with each other. Today, instant messaging can include the use of webcams and microphones.

Instant messaging is a Relay NC service that allows hearing callers to contact people who are deaf, hard of hearing, deaf-blind or speech disabled by sending a message to a screenname. A Relay NC Operator then relays the conversation between the two parties.

Advantages

- Efficient
- Effective
- Immediate



TECHNOLOGY

HANDOUT #4

UNDERSTANDING TECHNOLOGY

What is a Videophone?

A videophone is a telephone with a camera that allows the user who is deaf or hard of hearing to communicate using ASL (American Sign Language). Here's how it works: the person who is deaf or hard of hearing makes a call using a videophone and uses ASL to "talk." A Relay Operator as part of the Video Relay Service translates the sign language into words so the hearing person on the other end of the phone call can understand (hear) what is being signed (said). Some mobile phones have video calling capabilities.

Advantages

- Easy
- Effective
- Low-cost & widespread if using a mobile phone with video calling capabilities

TECHNOLOGY

Alerting and Communicating Devices for Deaf and Hard of Hearing People – What's Available Now

For more than 21 million Americans, hearing loss presents many everyday challenges – some large, some small. Communication may be the biggest challenge of all – getting and giving information, exchanging ideas, sharing feelings – whether in one-to-one contact, in groups, on the telephone, or through television and radio.

Sometimes there are small disruptions of daily life that result from reduced hearing. Most of us have no need to imagine these disruptions, but they make a difference for the person with a hearing loss. For example, how do you know when there is someone at the door? Or the phone is ringing? Of the baby is crying? How can you enjoy television or movies if you receive little or no information from the sound track? Ask enough of the "How do you…" and "What if…" questions, and inevitably you will get to this one: "Is there anything available that will help deaf and hard of hearing people in these and other situations? The answer is yes.

Many devices and systems are available to help deaf and hard of hearing people improve communication, adapt to their environment, and function in society more effectively.

Who uses these devices?

People with a hearing loss are the primary users. Their family members and friends may use them as well. Individuals with normal hearing may also use the technology (and the actual devices) when distance or other sound barriers impede spoken communication. In fact, some of these devices – such as wrist-worn vibrators, for example – were originally designed for people with normal hearing.

Where do people use these devices?

Just about anywhere. These devices are used at home, at work, at school, at social gatherings, at meetings, in hospitals, in church, in theaters, and some are helpful for hard of hearing listeners in cars.

Why do they use them?

The more than 21 million Americans with hearing loss are individuals who have hearing losses of different degrees and types. For each of these individuals, the experience of hearing loss is different and unique. In general, however, a hearing loss will prevent a person from receiving spoken messages (and many signal sounds) the same way someone with normal hearing receives them. Some hard of hearing people have losses so mild that speaking louder helps; other people do not respond to spoken sound at all and develop their skills in speech-reading or sign language to receive messages from others. A device that simply amplifies sound may benefit one deaf or hard of hearing person but another may need a device that offers a visual or vibrotactile component to convey the signal.

These alternatives are available. The main point is that people with hearing loss use such devices because they work and because they offer a means of being tuned in – conveniently – to the larger society.

TELEPHONE AIDS

The telephone has proved to be a formidable challenge to people with hearing loss. It's a challenge being met daily. Some deaf and hard of hearing people make use of devices that strengthen a phone's auditory signal; others use devices that communicate in a print format.

Alerting and Communicating Devices for Deaf and Hard of Hearing People – What's Available Now
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Telecommunication Devices for Deaf People (TTY's)

TTY permits conversations in print, rather than in voice. Two callers with compatible TTY's can communicate over regular phone lines. Their TTY's have typewriter keyboards, and the typed conversation appears either in a readout panel (display) or on paper. Although called telecommunication devices for deaf people, TTY's are recently used by people with varying degrees of hearing loss and also by hearing people who want direct phone contact with their deaf or hard of hearing family members, friends, colleagues, or clients.

When a deaf or hard of hearing user wants to call a hearing person who lacks a TTY, a TTY message-relay (or answering service) is required. In this third-party arrangement, the dual party operator uses two telephones – one in conjunction with a TTY – to complete the call.

The procedure is simple. Either a person with normal hearing or a person with a hearing loss can initiate the call. Let's assume that a person with a hearing loss wants to call his doctor to make an appointment. Using his TTY, he calls the relay service. The relay service operator reads the message typed by the caller, dials the doctor's office using the second telephone, and by voice conveys the message typed by the TTY user. The conversation proceeds with the relay service operator serving as a bridge – print to voice to communicate between the two parties. The nation wide number for the relay service in the United States is 711. Either voice or TTY user can use this number to place a call with the relay service. More information about the relay service can be obtained through this number.

Various TTY models are available, many of them portable, lightweight, and powered by household current or rechargeable battery pack. Those with computer compatibility enable owners to access special communication "mail" networks such as DEAFNET. Computer compatible TTY's also allow conversation between TTY users and computer users.

Under the Americans with Disabilities Act (ADA), telephone companies will be required to provide dual party relay systems nationwide.

Phone in Public Places

Amplifier handsets installed in public telephones are a real convenience for individuals with a hearing loss who require amplification to complete calls successfully. The telephone access sign identifies the availability of such handsets at airports, bus and train stations, museums, and telephone kiosks on the streets. Some hotels are installing amplifier handsets in some lobby phones, but may not identify them with an access sign. While such handsets are not universally available in public places, they are becoming more common.

Pay telephone and emergency telephones are being modified for compatibility with all hearing aids having the telephone switch, thus assuring this type of telephone access for those who need it.

For TTY users who need to make a telephone call from an airport, bus station or any public telephone location, this pay telephone is now accessible with the new pay phone TTY.

The pay phone TTY is a TTY inside a metal drawer underneath the public telephone. A protective metal cabinet prevents vandals from tampering with the TTY. When the TTY is in use, the drawer is open so that the keyboard and display are exposed. When making a phone call, the caller

Alerting and Communicating Devices for Deaf and Hard of Hearing People – What's Available Now
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simply lifts the telephone handset, inserts a coin, and dials the number just like any pay telephone call. The pay TTY listens to the telephone line for the sound of another TTY. When the person answering begins to type, the drawer containing the TTY slides out.

When the conversation ends, the pay TTY automatically closes the drawer, erases the memory and returns the telephone to normal operation. Once closed, the drawer cannot be open unless another TTY call is made.

Amplification Devices for Telephone Use

The telephone handset may be specially wired with an amplification device. Such volume control handsets may provide up to 30 percent additional power for the listener who has a hearing loss. They may be used with or without an individual's hearing aid.

Portable Amplifiers are small devices that can be carried in a purse or briefcase and slipped over the receiver of a regular telephone handset to provide increased amplification. They can be especially useful for travelers who are unable to find a pay phone with the amplifier handset, but who cannot manage telephone calls without such amplification. Portable amplifiers do not work with all phones. They are not compatible with princess, Trimline, or Slimline models, for example, since these phones do not emit sufficient magnetic leakage. Sometimes telephone adapters resolve this incompatibility.

Telephone adapters work with the hearing aid's telephone pickup feature, which is called the telecoil, telephone switch, or T-switch. A portable device slipped over the receiver, the telephone adapter does not amplify sound; it simply generates a magnetic field on which the hearing aid T-switch depends for proper operation. This adapter is necessary for the hearing aid wearer who uses Princess, Trimline, or Slimline phone or non-AT&T telephones. Many newer phones do not work with either the T-switch or the portable amplifier. Telephone adapters themselves vary in the amount of magnetic leakage they emit. Thus, it's mandatory to find out before buying whether a particular phone is compatible with a hearing aid, or a portable amplifier.

TELEVISION AND FILM ACCESS

TeleCaption Adapters

There are a few features available for captioning. The most recent development is the Television Decoder Circuitry Act. This law mandated that all television sets with screens 13 inches or larger that are manufactured for sale in the United States after July 1, 1993, must contain a built-in captioning decoding capability.

The other features available are decoders, such as the TeleCaption II Adapter, that are attached to television sets to enable viewers to read captions on their television screen. The signal is carried invisibly; only when the decoder is in operation can captions be seen. More than 400 hours of television viewing are captioned each week, including all of ABC's prime time and most network movies. Cable television distributors are also arranging to caption some of their programs and movies. The National Captioning Institute also has captioned more than 700 video titles for use on videocassette recorders (VCR). Therefore, persons with hearing loss can have increased access to the airwaves, making more attractive the consumer investment of about $200 in such devices.

Alerting and Communicating Devices for Deaf and Hard of Hearing People – What's Available Now
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Captioned Film/Video Programs
On August 7, 1997 the Federal Communications Commission adopted an order to include roles and implementation schedule for the captioning of video programs, including access to video programming for a person with hearing disabilities. A service rather than a device, Captioned Film/Video program is a distribution program for feature and education films captioned for viewers who are deaf. To receive the films, deaf or hard of hearing people must form a group and apply for membership to Captioned Film/Video Program. A Captioned Film group may meet in a member's home, schools, halls, senior centers, and nursing homes for regular showing of films chosen from the captioned films catalog. The only cost to the group is the postage charge for returning the 16mm films to the Distribution office.

Alerting Devices/Systems
How does a person with a hearing loss know when there is a knock at the door? Or the baby's crying? Or the telephone is ringing? Or the alarm clock is buzzing? The various alerting and alarm systems that signal deaf and hard of hearing people include: baby-cry alarms, doorbell alerting systems, paging devices, telephone signaling systems, smoke alarm systems, security and wake up alarms. The signal may be visual (a flashing light); auditory (an increase in amplification); or vibrotactile (a vibrator). If an alarm clock is wired to a vibrator placed under the bed pillow, the user is literally shaken awake. Auditory signals are sometimes used in conjunction with either visual or vibratory signals. Sometimes a single flashing light signaling system installed in a deaf or heard of hearing person's home may be wired to alert the person to several different sounds. For example, when the light flashes how does the person know where to go? A simple code helps identify the source of the sound; three slow flashes may mean the doorbell; three quick flashes may mean the telephone; regular on-off flashes may signal the baby's cries.

Listening Devices and Systems
As a benefit of modern technology, a number of amplification systems are now available to compensate for a hearing loss. In addition to the aforementioned telephone aids, there are listening enhancement systems for group and individual use. Any of these systems and devices may be incorporated into an existing facility or room.

Communication Access Systems for Groups and Large Rooms
In a large room, a person with a hearing loss – even with a powerful hearing aid – may have difficulty understanding the voice of the speaker on the stage, on the screen, at the podium, or in the pulpit. Background noise and room reverberation compete with speech sounds and exaggerate the listening problems experienced by hard of hearing people in such settings. However, a number of electronic systems can help overcome the problems by bringing the speaker closer to the ears of the listener and by eliminating much of the background noise. Each large room hearing enhancement system has two major components: 1) a transmitter that sends the signals and 2) a receiver that picks up those signals and delivers them at increased sound levels into the ears or hearing aids of people with a hearing loss – wherever they may be sitting. Among the general categories of communication access system for groups and large rooms are audio loops systems, AM systems, FM sound systems and infrared systems.

Alerting and Communicating Devices for Deaf and Hard of Hearing People – What's Available Now
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Audio Loop Systems
The components of a "loop" system are a microphone, an amplifier, and a length of wire that loops the seating area. Some loops are connected to standard public address systems. The electric current flowing through the loop creates a magnetic field that can be picked up by a hearing aid set on the T-switch (telephone switch). Portable receivers are available for hard of hearing individual without a hearing aid T-switch. To pick up the signals, listeners must sit within or near the loop.

AM Systems
Users listen to sound transmitted on the AM radio wavelength through individual AM receiver headsets or though a personal portable radio. The AM transmitter can be connected to a public address system or can operate alone, depending on the system installed. AM systems are subject to the same kind of interference from electrical apparatus or thunderstorms that affects regular AM radio transmissions.

FM (Frequency Modulation) Systems
FM systems, originally designed for and restricted to classroom use, are now benefiting hard of hearing users in general society. They work in this way: Sound is picked up at the source and transmitted via a FM frequency directly to a receiver worn by the individual with a hearing loss. Since transmission can occur over a 300-foot range, this system is ideal for group situations, including meetings in dining rooms and lounges, church services, and theaters. The FM system can be used in conjunction with an individual's hearing aid. To work in tandem with the FM system, the hearing aid must have a T-switch turned to the "T" position, or there must be a means for direct audio input to the hearing aid. In the first instance, a small "necklace" loop worn around the neck connects to the individually worn FM receiver. The signals are picked up by the T-switch of the hearing aid. In the case of direct audio input, the FM system is linked to the hearing aid by way of a "boot," a special attachment that slips onto the bottom of a behind-the-ear hearing aid. The "boot" is connected to the receiver by the wire. Both "necklace" loops and "boot" attachments can be connected to an external microphone or amplifier.

Infrared Systems
Like FM systems, infrared systems are useful in group situations and may be adapted for individual use as well. These large area systems require the installation of an infrared light emitter that is plugged into the existing public address system. Harmless infrared light rays transmit the sound to portable infrared receivers, which are available in "stethoscope" or headphone form. Usually the receivers for such systems are distributed and collected from a central place in the theater, auditorium, or meeting room.

Any group considering a communication access system for a large area must review carefully all the alternatives before making any decisions. Among the questions to ask are: How much does the system cost? Will a less expensive alternative work as well? How suitable is the system for the particular room and the intended user? Does installation require trained personnel (thus is more expensive) or is it possible to do it yourself? What are the advantages and disadvantages of each system? "Communication Access Systems for Groups and Large Rooms," a chart published by Self-Help for Hard of Hearing People, Inc., will help. It compares the various systems, describing their components, their suitability for different settings, their cost, etc., in a simple-to-scan grid format.

Alerting and Communicating Devices for Deaf and Hard of Hearing People – What's Available Now
CONTINUED

Personal Listening Devices

The listening enhancement device most familiar to the public is the hearing aid. Because hearing aids are fitted only after extensive testing by trained professionals, they will not be treated as part of this general discussion of assistive devices. However, the condition of an individual's hearing aid has direct bearing on the effective use of several of the systems described here. An individual whose hearing aid or hearing aid T-switch does not function well will not notice significant benefits from loops, FM systems, or other amplification enhancement devices used in conjunction with the aid.

Situations involving a few other people (small group discussions, dinner table conversations, social gatherings) or noisy environments (auto rides, cafeteria meals, outdoor activities) easily qualify for the name "difficult listening." Some of the difficulty experienced by people in such situations may be minimized by the use of personal listening systems. Composed of a small microphone, receiver, and amplifier, these systems convey the amplified speech signal directly from the microphone to the listener's aided or unaided ear. Other sounds are thus reduced in comparison to the speech signal.

Some of these devices are hard-wired, meaning that an actual wire connects the device worn by the user to the sound source located near the person speaking. Other devices are wire-less and permit unimpeded motion, the possibility of use out-of-doors, and even, as with FM, the capability of hearing the speech signal outside the place which it originates.

When used with television or radio, such devices allow the person with a hearing loss to adjust the volume on a receiver or hearing aid without disturbing the listening comfort of others in the same room.

The technology of large room systems may appear in these personal listening devices. Personal FM listening systems may be adapted for use while walking, in cars and vans, and even for television and radio listening. Individual infrared systems are available for personal use. It is possible to loop a living room, a section of a room, a desk in an office, or a chair inexpensively both for television and conversational listening. With components purchased from commercial electronics outlets, it is possible to put together an inexpensive hardwired listening system for personal use.

Such personal listening aids may use specially designed receivers (as in the case of infrared systems) or commercially available headsets, or they may work in conjunction with the hearing aid T-switch. An example is the "necklace" to loop described earlier that may be connected to a FM or hard-wired receiver.

Some individuals make their own neckloops. To them, a word or caution: there many be an electric shock hazard to the user when a neckloop with insufficient wire insulation is plugged into a portable AC-powered television set.

How does a person decide which of these options is best? Aside from the question of cost, there is the question of suitability. A personal listening device that works for one person may not be an appropriate choice for another. Is the sound quality clear? Is the amplification sufficient? Is the device easy to use? The only way to get answers to these questions is to try out several such devices and compare them critically and carefully.

Alerting and Communicating Devices for Deaf and Hard of Hearing People – What's Available Now
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What is the next step?

What are the right devices for me?

Ask your audiologist to refer you to a demonstration center where these various devices are on display. If there are none in your area, ask your audiologist to help you try out various personal listening systems and alerting devices. Do not buy anything unless you can arrange for a 30-day trial with the assurance that you can get most of your money back if you decide not to buy. Check on warranty before buying as well. During the trial period, use the device in a variety of everyday situations so you will have a realistic idea of its suitability.

NOTE:
Since the writing of this article the estimate of people with hearing loss has risen from 21 million Americans to between 35 and 45 million.

Also, the Division of Services for the Deaf and the Hard of Hearing's (DSDHH) seven regional centers serving all 100 North Carolina counties have a demonstration center and staff trained to assist deaf, hard of hearing, and deaf-blind individuals in selecting the appropriate device. Individuals may also apply for telecommunications equipment through the division's Telecommunications Equipment Distribution Program (TEDP).

Originally written by: Loraine DiPietro, M.A.;Pettyt Williams, Ph.D.; Hariet Kaplan, Ph.D.*

HANDOUT #5

UNDERSTANDING TECHNOLOGY

Alerting and Communicating Devices for Deaf and Hard of Hearing People

Many devices and systems are available to help deaf and hard of hearing people improve communication, adapt to their environment and function in society.

Telephone Aids

Telecommunication Devices for Deaf People (TTY's)

TTYs are text telephones. This special tool allows people who are deaf or hard of hearing to "talk" on regular phones by typing their conversation on TTY keyboards. Messages are then read on a special display panel on the phone or printed on a piece of paper.

Phones in Public Places

Some phones in airports, train and bus stations, museums and hotels may have amplifiers inside them to make sounds louder for people who have a hearing loss. Some public phones even have TTY capabilities.

Amplification Devices for Telephones

Some home and office telephones can be specially wired with an amplifier, increasing the volume as much as 30 percent for listeners with hearing loss.

Portable Amplifiers

People carry these small devices in a purse or briefcase. When they have to make a phone call, they simply fit the amplifier over the receiver of a regular telephone handset to make sounds louder. However, they don't work with all phones.

Television and Film Access

Telecaption Adapters

The Television Decoder Circuitry Act requires that all television sets with screens 13 inches or larger manufactured for sale in the United States after July 1, 1993, have built-in captioning capability.

Decoders

These devices are attached to television sets and allow viewers to read captions on their television screens. Every week, more than 400 hours of TV shows are captioned.

UNDERSTANDING TECHNOLOGY

Captioned Film/Video Programs

This is not a piece of equipment but a program to distribute captioned movies and educational programs to a group of people who are deaf or hard of hearing, for instance, school groups, senior centers, nursing homes – even people's homes. The only cost of this service is postage.

Alerting Devices/Systems

To know when someone is at the door, a baby is crying, the phone is ringing or an alarm clock is buzzing, people with hearing loss can use special alarms such as baby-cry alarms, doorbell alerting systems, paging devices, telephone signaling systems, smoke alarm systems, security and wake up alarms. These alarms specially designed for people who are deaf or hard of hearing use either flashing lights (visual cues), very loud sounds (auditory cues), or vibrations (vibrotactile cues).

Listening Devices and Systems

Communication Access Systems for Groups and Large Rooms

In large rooms or busy situations such as a meeting, church or a classroom, people with hearing loss may have a hard time understanding the speaker's voice. Special electronic systems can help by bringing the speaker closer to the ears of the listener and eliminating much of the background noise. These systems have two parts: a transmitter that sends the signals and a receiver that picks up those signals and delivers them at increased sound levels into the ears or hearing aids of people with a hearing loss.

Audio Loop Systems

A microphone, an amplifier and a length of wire encircle ("loop") the seating area. For people sitting in or near the loop, an electric current flowing through the loop creates a magnetic field that can be picked up by a hearing aid set on the T-switch (telephone switch). People without a hearing aid T-switch can use a portable receiver to pick up signals.

AM Systems

Users listen through an AM radio receiver headset or a personal portable radio set. However, like a regular AM radio, the broadcast can be interrupted by thunderstorm or other electrical equipment interfering with transmission of the signal.

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FM (Frequency Modulation) Systems

Similar to the AM system in that it's like a broadcast radio signal, the FM system picks up sound at the source and transmits is using an FM frequency directly to a receiver worn by the person with a hearing loss. This kind of transmission has a greater than 300-foot. It can also work with a hearing aid set on the T-switch (telephone switch).

Infrared Systems

This system uses harmless infrared light rays to transmit sound to portable infrared receivers distributed to the audience in either "stethoscope" or headphone form.

Personal Listening Devices

Sometimes for deaf and hard of hearing people, small group discussions, dinner table conversations, social gatherings, car rides, cafeteria meals, and outdoor activities can be hard. Personal listening systems can help. Composed of a small microphone, receiver and amplifier, these systems send the amplified (louder) speech signal directly from the microphone to the listener's ear, with or without a hearing aid. Other sounds are reduced in comparison to the speech signal. These devices can be hard-wired or wireless.

About Captioning

Captioning Types, Methods and Styles

During the late 1950s, only open-captioning was available. Twenty years passed before closed-captioning made its first debut. Several years later, other captioning techniques followed.

What Are Captions?

Captions are the "audio" for deaf and hard of hearing people. "Captions" is basically another word for "words," and they are usually placed at the bottom portion of the screen. Captions enable deaf and hard of hearing people to understand and enjoy the dialogue the same way as hearing people do.

What Are Types?

Types vary according to how the captions appear, how they are accessed and what information is provided. These include closed captions, subtitles, and subtitles for the deaf and hard of hearing.

Explanation of Each Captioning Type

***Closed Captions**: These are hidden on the 21st line of the vertical blanking interval (VBI) of a video signal and are made visible by a decoder at the time of viewing. They are usually white letters encased in a black box.

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***Subtitles**: Subtitles are usually white or yellow letters with a black rim or drop shadow. Some are always visible, like the "open captions" of DCMP (described and captioned media programs) videos. Others, like those on DVDs and the internet, are displayed using the medium's menu option.

***Subtitles for the Deaf and Hard of Hearing (SDH)**: These are just like subtitles, but SDH include information such as sound effects, speaker identification and other essential nonspeech features. These are presented as close to verbatim as possible.

***Foreign Film Subtitles**: Which are written for hearing viewers, these subtitles usually do not indicate information other than dialogue and often are edited. Some may translate important onscreen information such as a street sign or written message.

Are Captions Accessible on the Internet?

(excerpted from "What Are Captions" by Shannon Chenowith)

The internet is a mass medium that has become a primary source of information. Therefore, an increasing amount of content on the internet has sound and is captioned. With the rise of captioned programming on television, the demand on the web will surely grow.

Most people use one of three major players to access audio and video on the Internet: Windows Media Player, RealPlayer, and QuickTime. Each player has integrated accessibility features that give users the ability to turn on captioning and video description if it is available. Finding these features in each of the players can be difficult. Not only are they in different places, depending on the player, they can be in different places in previous versions.

How Do I Turn On the Captions?

For the Windows Media Player, activate the captions by going to the Play menu, point to Captions and Subtitles, and then click the appropriate language or other option.

In RealPlayer, captions are turned on by going to the Tools menu, selecting Preferences and clicking on Content. Under the Accessibility heading, choose "use supplemental text captioning when available" and/or "use descriptive audio when available."

The latest version of the QuickTime player operates a little differently. Depending on the production, the caption feature is either automatically turned on or the option is clearly displayed on the viewing window. For older versions (QuickTime version 6.0 and earlier), turn on the captions by going to the Edit menu, selecting Enable Tracks and choosing the caption text track.

NOTE: See the Yes, You Can curriculum CD-ROM Technology chapter and DVDs ("Day in the Life of Relay," "Connect to Your Future" and "Are You Listening") for more on the alerting and communicating devices.

**Special thanks to Described and Captioned Media Program, a free-loan program of materials for students K-12 who are deaf, hard of hearing or deaf-blind, funded by the US Department of Education. For more information or free materials, go to www.dcmp.org.*

OVERHEAD TRANSPARENCY #1

UNDERSTANDING TECHNOLOGY

TELECOMMUNICATIONS ACCESS FOR NORTH CAROLINA:

Helping provide assistive telecommunications equipment to deaf, hard of hearing, deaf-blind and speech impaired individuals.

EQUIPMENT FOR THE DEAF

*Teletypewriters (TTYs)
*Visual Alerting Devices

TTY with printer

Visual Alerting Device

TECHNOLOGY

OVERHEAD TRANSPARENCY #2

UNDERSTANDING TECHNOLOGY

TELECOMMUNICATIONS ACCESS FOR NORTH CAROLINA:

Helping provide assistive telecommunications equipment to deaf, hard of hearing, deaf-blind and speech impaired individuals. CONTINUED

EQUIPMENT FOR HARD OF HEARING

*Amplified Phones
*Voice Carry Over (VCO) Telephones
*Loud Ringers
*Amplifier Devices
*Hearing Aid with Telecoil

Hearing Aid with Telecoil (ITE and BTE)

Two different styles of hearing aids are offered: the Behind the Ear (BTE) or the In the Ear (ITE) models. Each hearing aid is equipped with a special device known as a Telecoil or T-Switch. This device makes the hearing aid compatible with most telephones. The T-Switch helps prevent the whistling sound (feedback) that can result from having the hearing aid close to a hard surface (like the telephone receiver). It also mutes the environmental microphone, to amplify, just the voice on the telephone and not surrounding sounds.

Adaptive Cordless Telephone

Neck Loop

TECHNOLOGY

OVERHEAD TRANSPARENCY #3

UNDERSTANDING TECHNOLOGY

TELECOMMUNICATIONS ACCESS FOR NORTH CAROLINA:

Helping provide assistive telecommunications equipment to deaf, hard of hearing, deaf-blind and speech impaired individuals. CONTINUED

EQUIPMENT FOR DEAF-BLIND

*Large Visual Display Telephones
*Braille Phone TTYs
*Tactile Alerting Devices

TTY with Large Print Printer

Braille TTY Phone

TECHNOLOGY

OVERHEAD TRANSPARENCY #4

UNDERSTANDING TECHNOLOGY

TELECOMMUNICATIONS ACCESS FOR NORTH CAROLINA:

Helping provide assistive telecommunications equipment to deaf, hard of hearing, deaf-blind and speech impaired individuals. CONTINUED

EQUIPMENT FOR SPEECH IMPAIRED

ElectroLarynx Kit and Hands-free Speakerphone

Light Writer

TECHNOLOGY

TELECOMMUNICATIONS ACCESS FOR NORTH CAROLINA: Helping provide assistive telecommunications equipment to deaf, hard of hearing, deaf-blind and speech impaired individuals.

EQUIPMENT FOR THE DEAF

*Teletypewriters (TTYs)
*Visual Alerting Devices

TTY with printer

Visual Alerting Device

TEACHER RESOURCE

TECHNOLOGY

TELECOMMUNICATIONS ACCESS FOR NORTH CAROLINA: Helping provide assistive telecommunications equipment to deaf, hard of hearing, deaf-blind and speech impaired individuals. CONTINUED

EQUIPMENT FOR HARD OF HEARING

*Amplified Phones
*Voice Carry Over (VCO) Telephones
*Loud Ringers
*Amplifier Devices
*Hearing Aid with Telecoil

Hearing Aid with Telecoil (ITE and BTE)

Two different styles of hearing aids are offered: the Behind the Ear (BTE) or the In the Ear (ITE) models. Each hearing aid is equipped with a special device known as a Telecoil or T-Switch. This device makes the hearing aid compatible with most telephones. The T-Switch helps prevent the whistling sound (feedback) that can result from having the hearing aid close to a hard surface (like the telephone receiver). It also mutes the environmental microphone, to amplify, just the voice on the telephone and not surrounding sounds.

Adaptive Cordless Telephone

Neck Loop

TELECOMMUNICATIONS ACCESS FOR NORTH CAROLINA: Helping provide assistive telecommunications equipment to deaf, hard of hearing, deaf-blind and speech impaired individuals. CONTINUED

EQUIPMENT FOR DEAF-BLIND

*Large Visual Display Telephones
*Braille Phone TTYs
*Tactile Alerting Devices

TTY with Large Print Printer

Braille TTY Phone

TEACHER RESOURCE

TECHNOLOGY

TELECOMMUNICATIONS ACCESS FOR NORTH CAROLINA: Helping provide assistive telecommunications equipment to deaf, hard of hearing, deaf-blind and speech impaired individuals. CONTINUED

EQUIPMENT FOR SPEECH IMPAIRED

ElectroLarynx Kit and Hands-free Speakerphone

Light Writer

CULTURE

AKAALSOKNOWNAS **NOOB**NEWBIE **PEEPS**PEOPLE **JIC**JUSTINCASE

PROUD TO BE DEAF

By: Jessica M.
Grade 12

Who am I? I am a deaf African-American and am proud of it. I have overcome communication and stereotype barriers. I am proud to be a deaf child with a deaf mother. It is easy for us to communicate because we communicate in ASL. When I was younger, I was very shy. My mom taught me sign language every day, which helped me communicate with her easily. At age seven, I realized that I could communicate with my deaf peers and my family and there was no reason for me to be shy! Now, I love to meet new people, not based on what they are. I want to learn about everyone-their language, their heritage, their culture, and so on. For example, my boyfriend is Hispanic, and I learned, "que pasa." What does it mean? It translates to: "what's up." It is fascinating to me, different languages and cultures, because it is so diverse, like deaf culture.

I love the fact that deaf culture has different events like the Deaf Expo in Greensboro, NC annually. I love it because I can go to different booths and see what is new in technology, buy items that are hard to get normally, see cool shows, meet new people, and see old friends that live far away. It is important for us to have events like this because I can get in contact with people, learn about new technology, etc. For example, in 2005 I learned more about IP-Relay and about VRS at the Deaf Expo. Now, I am able to communicate much easier with deaf peers as well as hearing people. Even emergencies don't seem like emergencies anymore because I am able to easily communicate! IM, Relay, email, and the Internet are great modes of communication for deaf people and the TTY is becoming outdated, especially in my generation.

Being at ENCSD has been a wonderful experience. I always get a firsthand experience at the new technology here as well as am able to be around my peers. I feel that I am a good role model, because of my predecessors. I was All-American in volleyball last season. Sports are very important in deaf culture, and I was able to use the Internet to tell my mom when my games were. I have been MVP in basketball and volleyball as well. The class of 2007 has been a fun group to grow up with. We learn from each other and we have good teamwork and are a strong support group for each other. Most of us are on the SG; we use email to correspond to each other and to the principal or school director. We are learning to advocate for our fellow classmates and ourselves.

I love art. Drawing is my passion since I was eight years old. I just started to pick it up and ended up loving it because it felt like an outlet for me. With this talent I am hoping to get into the graphic design industry. I now draw school posters, for the yearbook, prom decorations, for the school newsletter, etc. My mom is very proud of my accomplishments here at ENCSD and is looking forward to me entering college for art. And, I know I can do it with the huge support of my ENCSD family and my mom. I won't throw in the towel when it comes to my future. Being deaf is all about pride and giving up is not in our vocabulary!

Technology is making communication and achieving our goals much easier. With Relay, VRS, IM, pagers, etc. we are able to be closer to our dreams and are able to communicate easily with our friends and family. Now, it is much easier for me to apply for college, do my artwork, etc. Deaf events are becoming more and more technical and global. I can't wait to see what technology is like ten years from now.

SUBJECT
Deaf Culture

LESSON TOPIC
Hannie, by B. Luetke-Stahlman

TIME
Several 30-minute periods

LTSGT2GTHRLET'SGETTOGETHER **JAM**JUSTAMINUTE

Program Outcome(s)/Goal(s)/Expectation(s)
Students will understand what life is like for a girl with hearing loss.

Program Indicator(s)
People with hearing loss can live independently, thanks to friends, family and technology.

Student Outcome(s)
Students will identify with Hannie and her family and friends, and understand what her life is like.

Context for Learning
Students should discuss the book, barriers to communication and how people who are deaf, deaf–blind, hard of hearing, and speech impaired live, express themselves and achieve independence.

Materials Needed
- Handout #1
- Teacher Resources

INSTRUCTIONAL DELIVERY

Opening Activities/Motivation

Introduce students to the life of a student with hearing loss – her trials and triumphs – through the book *Hannie*, by B. Luetke-Stahlman. Explore cultural differences and similarities between Hannie and themselves.

Procedure

1. Read the student outcome together.
2. Assign chapters of *Hannie* to read.
3. Discuss important points based on the handout questions.
4. Share and explore the additional handouts and material on deaf culture as well as resources to learn more.

Assessment/Evaluation

A listening and speaking grade may be given for discussion.

Closure

Have students write about the times they could most identify with Hannie and what she goes through. Read aloud and discuss.

HANNIE

FOREWORD

The foreword provides a brief background of who Hannie is, explains how to read the story and explains how to know when text implies spoken communication and when the text implies signed or both signed and spoken communication.

CHAPTERS ONE AND TWO

Marcy and Mary Pat are both deaf and adopted. Mary Pat was adopted when she was very young and had immediate access to communication. Marcy was adopted from an orphanage, and her language is much more delayed due to lack of exposure to language in her early years. For this reason, Marcy needs more intensive language development than her sister Mary Pat.

Often siblings communicate best with their deaf siblings. Hannie's family is unique in that everyone can sign and there is a free flow of communication. Family members step up and interpret for Marcy and Mary Pat whenever needed. Full access to language is the only way deaf children who sign will develop their language skills.

CHAPTER THREE

Often siblings' skills in sign language are so strong that they go into the field of interpreting or occupations that allow them to work with people who are deaf or hard of hearing. It is an honor in the deaf community to be told that you sign well enough to interpret. However, just knowing sign language is not enough to be qualified as a professional interpreter. Interpreters must have special education and training and are required to pass state and national tests to interpret in the community or in schools.

Children who are deaf or hard of hearing should be exposed to adults who are also deaf or hard of hearing. This exposure helps the child feel connected to a larger community and reduces the feeling of isolation. This is especially important for the only deaf child attending a public school.

Music, plays and all types of events can be interpreted. Interpreting music and plays can be more dramatic. The website Humor and Stories for Interpreters: Performing Arts offers a sample of an interpreted song (www.theinterpretersfriend.com/misc/humr/pa-terp.html).

CHAPTERS FOUR & FIVE

These chapters bring up the feelings of a hearing person when he or she is the only person who is not deaf. It is a wonderful place to discuss how your students would feel in such a situation.

Assistive technology is briefly mentioned in this chapter when the flashing light indicates someone is at the door. Many types of assistive technology are available to people with hearing loss. For more on assistive technology, see the *Technology* chapter of this curriculum or the following websites, which provides links to information about assistive technology: http://dsdhh.dhhs.state.nc.us/ and www.disabilityresources.org/AT-DEAF.html.

Useful information about closed captioning can be found at the following website: http://en.wikipedia.org/wiki/Closed_captioning. The *Technology* chapter of this curriculum also contains information on captioning. The difference between open and closed captioning is well defined on the following website: www.washington.edu/accessit/articles?1050. Other ways people communicate can be found in the *Communications* chapter of this curriculum or at the following website: Telecommunications for the deaf: http://lifeprint.com/asl101/topics/telecommunicationsforthedeaf.htm.

CHAPTERS SIX & SEVEN

You will find some helpful information on cochlear implants in *The Incredible Ear* chapter of this curriculum or on the NIH (National Institutes of Health) website: www.nidcd.nih.gov/health/hearing/coch.asp. You can also learn the difference between hearing aids and cochlear implants in *The Incredible Ear* chapter of this curriculum. The following website offers information on the difference between hearing aids and cochlear implants: http://cochlearimplants.med.miami.edu/implants/02_The%20Difference%20between%20Hearing%20Aids%20and%20Cochlear%20Implants.asp.

CHAPTERS EIGHT & NINE

People who are deaf or hard of hearing call those who can hear "hearing." On average, around 90 percent of children who have hearing loss are mainstreamed into public schools, which can lead to isolation and poor access to others who can sign. Sign language classes, sign language clubs and strong deaf mentor programs are some resources that can help mainstreamed children feel more connected to their community.

It is uncommon that so many people sign, like Hannie's family. Sadly, many parents of children who are deaf or hard of hearing do not learn as much sign as they need to and may have poor support from schools to do so. Outreach programs for parents and siblings can help.

A discussion of how to communicate with people who are deaf can be found at http://deafness.about.com/od/hearingbasic1/a/communicate.htm. Or, see the *Communication* chapter of this curriculum. Role-playing would be an effective way for students to demonstrate what might happen if they met a person who is deaf.

Marcy's voice is louder because she has to speak louder to hear herself.

CHAPTERS TEN & ELEVEN

You will find information about famous deaf people at the following address: http://deafness.about.com/od/articlesandnewsletters/a/famousdeaf.htm. To show your students where Hannie's sisters go to school, direct them to the webpage for the Kansas School for the Deaf http://ksdeaf.org/. Information about musical interpreting and TDD/TTYs can be found in other chapters within this guide. More about TTYs can be found in the *Technology* and *Relay* chapters of this curriculum.

HANDOUT #1

HANNIE

A Book by B. Luetke-Stahlman

Chapter One

July

1. What is special about Hannie's sisters, Mary Pat and Marcy?
2. Why was sleeping in Grandma's room a "good deal" for Hannie?
3. How does Hannie's family communicate?
4. How does Hannie help Mary Pat understand what her father is saying in the car trip to camp?
5. What do you think it would be like to have a deaf brother or sister?

Chapter Two

August

1. How did Marcy come to the United States?
2. What do you think it was like in the orphanage in Bulgaria?
3. What kind of camp did Hannie like to go to?
4. What did Hannie and Rachel do for their special project?
5. What did Hannie's teacher, Ann, tell her about the competition?
6. Why did Hannie feel more grown up on this trip?

Chapter Three

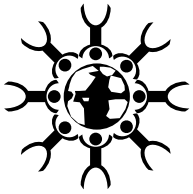
September

1. Why is September Hannie's second favorite month?
2. How did Mary Pat communicate during the competition?
3. What was so special about Mary Pat's winning runner-up?
4. What was special about Hannie helping Brandon communicate with his tennis coach?
5. Do educational interpreters need any kind of training?
6. Why is it important for deaf children to be exposed to deaf adults?
7. What was so special about John McCutcheon's performances?

Chapter Four

October

1. What did Quinn and Hannie do on their weekend together?
2. What did Ken Clark do with the students at Scarborough School?
3. How did Hannie's friend Lauren feel about Mr. Clark's visit?
4. How do Hannie's sisters know when someone is at the door?



HANNIE

Chapter Five

November

1. How did Hannie's sister Mary Pat call her friend?
2. What is closed captioning? What do you think open captioning would mean?
3. What are some other ways deaf people communicate using telecommunications?

Chapter Six

December

1. What is a cochlear implant? How is it different from a hearing aid?
2. How would you feel as an interpreter for one of your family members?
3. Why do you think Marcy has a harder time understanding language than Mary Pat?

Chapter Seven

January

1. How would you feel if one of your parents were badly injured like Hannie's father?
2. What would you do to help your family?

Chapter Eight

February & March

1. What does Hannie mean when she says most of Mary Pat and Marcy's friends are "hearing"?
2. What are some ideas that could help the problem of communication between the sisters and their hearing friends?
3. How does the family help Marcy develop her language?
4. What does Hannie's mom do for a living?

Chapter Nine

April

1. Why is it important to sign when a deaf person is in the room even if you are not talking to the deaf person?
2. Why does Hannie feel jealous of Mary Pat and Marcy?
3. What has Hannie learned from having deaf sisters?
4. Why is Marcy's voice louder when she doesn't have on her hearing equipment?

HANNIE

Chapter Ten

May

1. What kinds of things happened at the Family, Fun and Facts Weekend at the Kansas School for the Deaf (KSD)?
2. How would you feel if you were the only deaf child in your school?
3. Do you know of any famous deaf actors or actresses?
4. Why were Marcy and Mary Pat more independent at KSD?
5. What did Hannie like about KSD?
6. Why was Hannie lucky to interpret for the skit at the Family, Fun and Facts Weekend?

Chapter Eleven

June

1. How did Hannie's sister Mary Pat call her friend?
2. Have you ever seen music interpreted? What was it like?
3. How do deaf people clap?
4. How do Mary Pat and Marcy know what is going on during the baseball game?
5. What is a TDD or TTY?

HANNIE

A Book by B. Luetke-Stahlman

Chapter One

July

1. What is special about Hannie's sisters, Mary Pat and Marcy?

- They are both deaf and could not hear speech clearly.
- They are both younger than Hannie.

2. Why was sleeping in Grandma's room a "good deal" for Hannie?

- Grandma took the cousins to breakfast as soon as they were up the next morning.
- Hannie only had to share Grandma with Jessie.
- She did not have to try to eat and sign at the same time.
- Grandma let Hannie and Jessie order anything they wanted!

3. How does Hannie's family communicate?

- Hannie's family signed because both Marcy and Mary Pat were deaf and could not ear speech clearly.

4. How does Hannie help Marcy understand what her father is saying in the car trip to camp?

- Since Marcy could not see her daddy signs from the back seat of the car, Hannie repeated what her father was saying so Marcy could understand.

5. What do you think it would be like to have a deaf brother or sister?

This is an objective question. (See the essays at the beginning of each chapter of the curriculum.)

6. How did Marcy come to the United States?

- The Fores had adopted a little girl that Hannie knew only from pictures. Her name was Vara and she lived in Bulgaria with Marcy before Vara and Marcy came to the United States. The Fores had adopted Vara just like Hannie's family had adopted Marcy.

7. What do you think it was like in the orphanage in Bulgaria?

- This is an objective question. Imagine if you were in an orphanage. Also imagine if you were deaf and in an orphanage. Lonely, left out and confusion are normal feelings.

HANNIE CONTINUED

A Book by B. Luetke-Stahlman

Chapter Two

August

1. What kind of camp did Hannie like to go to?

- Suzuki Violin Camp.

2. What did Hannie and Rachel do for their special project?

- They went to the Salvation Army and got plaid skirts, pastel blouses and saddle shoes.

3. What did Hannie's teacher, Ann, tell her about competition?

- She told Hannie that it can make you work harder when you compete a little bit, but she also reminded Hannie that in the Suzuki method the emphasis was on each child's own progress and improvement.

4. Why did Hannie feel more grown up on this trip?

- Hannie drove the boat.

Chapter Three

September

1. Why is September Hannie's second favorite month?

- She liked September because the routine was still new at school and there were a lot of fun things planned for every weekend. (Her first favorite month was July, of course, her birthday month)

2. How did Mary Pat communicate during the competition?

- To the family's surprise, they recognized one of the three judges as Mr. Beaver, a hearing man who was the principal for Kansas School for the Deaf. When Mary Pat was called up on stage, she was directed towards Mr. Beaver, who, signing himself, asked her 5 questions.

3. What was so special about Mary Pat winning runner-up?

- She was the first deaf girl to ever enter the contest, let alone win one of the three spots in the car for the parade! She got to ride in a car with the Sweet Sixteen queen.

4. What was special about Hannie helping Brandon communicate with his tennis coach?

- The coach asked her to explain to Brandon to keep his arm straighter as he followed through on the swing. The coach had not been able to show him exactly what he needed to do.

5. Do educational interpreters have to have any kind of training?

- Real interpreters are required to go to school and receive appropriate training. Ms. Terry was a trained educational interpreter who had gone to college for 2 years to learn her trade.

6. Why do you think it is important for deaf children to be exposed to deaf adults?

- This is an objective question. It should include comments about how hearing children learn words and how to speak from listening to hearing adults. It is equally important that deaf children be exposed to deaf adults to get a sense of how to communicate appropriately as well. (Refer to the Deaf Culture section of the curriculum.)

7. What was so special about John McCutcheon's performances?

- He would sing a Russian song in English, then Russian, and then he would teach the audience how to sign it, to sing without using their voices.

Chapter Four

October

1. What did Quinn and Hannie do on their weekend together?

- They spent most of the weekend on a performance with three acts; they made and painted the scenery by themselves and put together the music.

2. What did Ken Clark do with the students at Scarborough School?

- He told them about how he grew up and about the first year that he went to KSD. He also told them that he thought he might be allergic to the plastic in hearing aids so that was why he didn't wear one.

3. How did Hannie's friend Lauren feel about Mr. Clark's visit?

- She felt left out because they signed fast and didn't use speech – none of them knew what was being said.

4. How do Hannie's sisters know when someone is at the door?

- The lights flashed all over the house to let the little girls know that someone was at the front door.

HANNIE CONTINUED

A Book by B. Luetke-Stahlman

Chapter Five

November

1. How did Hannie's sister, Mary Pat, call her friend?

- She asked Hannie to call her friend using her Pepsi-can telephone. Then Hannie would sign to Mary Pat what her friends said.

2. What is closed captioning? What do you think open captioning would mean?

- Closed captioning requires a decoder on the TV (new TVs have the decoder chip already built in). When you turn on the Closed Captions, words appear on-screen, "captioning" what the people are saying in the TV show or movie.

- Open captions means the captions are on all the time; they do not require a decoder chip or anything special. (See the *Relay NC* chapter of the curriculum for more details.)

3. What are some other ways deaf people communicate using telecommunications?

- This is an objective question: TTY, Video Relay Services, instant messaging, text messaging, etc. (See the *Relay NC* chapter of the curriculum for more details.)

Chapter Six

December

1. Who had a cochlear implant? How is it different from a hearing aid?

- Both Mary Pat and Marcy had cochlear implant surgery and now wear tiny microphones attached on an ear mold on their left ears. They cannot get wet.

- How is it different is an objective question. Cochlear implants require surgery to put a wire inside of the cochlea. Implants are more expensive than hearing aids and require the use of a speech processor. The hearing aid is merely plugged into the ear and uses an amplifier. (See *The Incredible Ear* chapter of the curriculum for more details.)

2. How would you feel as an interpreter for one of your family members?

- This is an objective question and open for discussion. Imagine having to interpret situations that are critical to family members who are unable to sign; it can be good or bad. (See the *Communications* chapter of the curriculum for more details.)

3. Why do you think Marcy has a harder time understanding language than Mary Pat?

- She is younger than Mary Pat.

HANNIE CONTINUED

A Book by B. Luetke-Stahlman

Chapter Seven

January

1. How would you feel if one of your parents were badly injured like Hannie's father?

- This is an objective question. Imagine if you were deaf and had problems communicating with the doctors, nurses, and people around you.

2. What would you do to help your family?

- This is an objective question. Again, imagine if you were deaf and your family needed help but always felt like they need to rely on your hearing sisters or brothers who were younger than you because of language barriers.

Chapter Eight

February & March

1. What does Hannie mean when she says most of Mary Pat and Marcy's friends are "hearing?"

- Most of Mary Pat and Marcy's friends have normal hearing and can sign only a little bit.

2. What are some ideas that could help the problem of communication between the sisters and their hearing friends?

- This is an objective question. Ideas include mime, gestures, writing back and forth, using a computer and typing back and forth, drawing pictures, showing each other what they want to do, etc. (See the *Culture* and *Communication* chapters of the curriculum for more details.)

3. How does the family help Marcy develop her language?

- Everyone has different tasks to do. Mary Pat demonstrated log rolls, hoping on one foot and walking on a balance beam that daddy had set up in the basement. Breeze worked on English-related activities, like using prepositions and verbs in short sentences when Marcy was playing or dressing. Hannie's job was to read two stories a day to her littlest sister.

4. What does Hannie's mom do for a living?

- She is a professor at the University of Kansas Medical Center and director of the Deaf Education program. She teaches a course each semester to college students, helps them write an important, long paper called a thesis, goes to the library to read and look up information on people, talks to parents of deaf children, etc.

A Book by B. Luetke-Stahlman

Chapter Nine

April

1. Why do you think it is important to sign when a deaf person is in the room even if you are not talking to the deaf person?

- This is an objective question. How does it feel when you're at a party and everyone is talking and you aren't included? It's important to allow the deaf person to feel like he or she is part of the family, group, class, etc. and welcome to join the conversation. It allows the deaf person to be a part of the group. Now, imagine you were deaf and entered a room where every one was talking and then, when everyone saw you, they started signing? How would you feel? (Refer to the *Communication* and *Culture* chapters of the curriculum for more details.)

2. Why does Hannie feel jealous of Mary Pat and Marcy?

- Her mother took the little girls to an audiologist to have their ears and equipment checked, which also meant that they missed half a day of school and got to eat fast food. Also, when there was a special event at KSD, Hannie felt left out because she was one of the few hearing people there.

3. What has Hannie learned from having deaf sisters?

- She signs well and has had lots of interesting experiences with a lot of different kinds of people. People ask her to sign for them and to interpret once in a while, and she can talk with both hearing and deaf friends. A lot of kids at school ask her for the signs for things. Teachers seem to appreciate that she can sign with the deaf kids in class, in the lunchroom and at recess.

4. Why do you think Marcy's voice is louder when she doesn't have her hearing equipment on?

- This is an objective question. People who use a hearing aid or a cochlear implant may be able to hear their own voice and can adjust the volume to be more suitable. When they are not using their hearing devices, sometimes they speak louder without realizing it simply because they can't hear themselves.

HANNIE CONTINUED

A Book by B. Luetke-Stahlman

Chapter Ten

MAY

1. What kinds of things happened at Family, Fun and Facts Weekend at Kansas School for the Deaf (KSD)?

- The staff at KSD planned an activity-filled weekend for all the families with deaf kids. The parents went to a big meeting in the KSD Auditorium and the children enjoyed special activities.

2. How would you feel if you were the only deaf child in your school?

- This is an objective question. If you were the only deaf child in the school, you could feel left out, rejected from playing sports, picked on for being special. You may require an interpreter or note-taker, etc. (See the "A Day in my Life" Essays at the beginning of each chapter in the curriculum.)

3. Do you know of any famous deaf people?

- This is an objective question: Helen Keller, Marlene Matlin, Linda Bove, I King Jordan, Sue Thomas, Deanna Bray, Beethoven, Dr. Glen Anderson, etc.

4. Why were Marcy and Mary Pat more independent at KSD?

- They could be totally independent at KSD because so many people signed.

5. What did Hannie like about Family Fun and Facts day at KSD?

- She liked that so many people all in one place who knew so much about living with deafness, all came together for one long day of sharing, storytelling, laughter and learning.

6. Why was Hannie lucky to interpret for the skit at Family, Fun and Facts Weekend?

- Hannie's mother said "How nice that someone thought of having Hannie interpret the skit. She is lucky, but not all of the brothers and sisters have learned to sign. She has put some effort into learning that skill, even thought it doesn't really seem like it. Thank you for being able to interpret for your friends. I was proud of you!"

HANNIE CONTINUED

A Book by B. Luetke-Stahlman

Chapter Eleven

June

1. Have you ever seen music interpreted? What was it like?

- This is an objective question.

2. How do deaf people clap?

- Mama and Daddy were clapping, and Marcy and Mary Pat were popping up and down in their chairs and waving their hands above their heads in the "Deaf Clap" gesture. Hannie clapped hard for her sister and joined in the deaf clap too.

3. How do Mary Pat and Marcy know what is going on during the baseball game?

- Mama and Papa took turns interpreting what was going on at the ball game.

4. What is a TDD or TTY?

- TDD is a Teletype Device for the Deaf (also called TTY or text telephone). People who are deaf use this machine to communicate with other people with hearing loss who have the same type of machine. It also can be used to call hearing people through Relay NC services.

RESOURCES ON THE WEB

Deafness:
http://deafness.about.com/

Deaf Culture:
www.pbs.org/wnet/soundandfury/culture/living.html

Deafness and Hearing Loss:
www.nichcy.org/pubs/factshe/fs3txt.htm

Family Village Sign Language:
www.familyvillage.wisc.edu/general/signlanguage.html

My Baby's Hearing:
www.babyhearing.org/Parent2Parent/parenttalk/Siblings.asp

The Deaf Mentor Program:
www.aahbei.org/files/forms/Pittman.pdf

Assistive Technology for People who are Deaf or Hard of Hearing:
www.disabilityresources.org/AT-DEAF.html

Wikipedia Closed Captioning:
http://en.wikipedia.org/wiki/Closed_captioning

Access IT:
www.washington.edu/accessit/articles?1050 (open vs. closed captioning)

Telecommunications for the Deaf:
http://lifeprint.com/asl101/topics/telecommunicationsforthedeaf.htm

Cochlear Implants:
www.nidcd.nih.gov/health/hearing/coch.asp

Cochlear Implants vs. Hearing Aids:
http://cochlearimplants.med.miami.edu/implants/02_The%20Difference%20between%20Hearing%20Aids%20and%20Cochlear%20Implants.asp

Famous Deaf People:
http://deafness.about.com/od/articlesandnewsletters/a/famousdeaf.htm

Communicating with People who are Deaf:
http://deafness.about.com/od/hearingbasic1/a/communicate.htm

Kansas State School for the Deaf:
http://ksdeaf.org/

WHAT IS DEAF CULTURE?

Deaf culture is the cluster of values, attitudes, perceptions, customs, beliefs and knowledge that deaf people use to relate to others, interpret experiences and situations, and behave in society.

Deaf culture has an impact on everything a deaf person feels and does – from business transactions and family dynamics to educational success and self-esteem. Hearing people's cultural assumptions are so deeply rooted that they are referred to as common sense. However, these apparently common sense assumptions need to be looked at if there is to be an understanding of how your cultural expectations may be in conflict with those of deaf people.

The deaf culture, as a "multicultural and multilingual group," is like any other culture; it has its own language, values, rules of behavior and traditions.

LANGUAGE

- Signs
- Eyes, face and body movement
- Fingerspelling
- Gestures and mime

VALUES

- Visual communication
- Hands
- Vibrations & light signals
- Auxiliary aids and services

RULES OF BEHAVIOR

- Eye contact
- Touching to get attention
- Ways of introducing people
- Ways of applauding

TRADITIONS

- Folklore
- Jokes and humor
- "Oral" history
- Dances, skits and drama

GLOSSARY OF NEW TERMS

CULTURE/LANGUAGE

American Sign Language – A natural visual language using the hands, with its own vocabulary and grammar.

Cued Speech – A lip reading system.

Deaf – The proper word to use when you are referring to a person with a profound hearing loss.

Deaf Culture – The similar beliefs, customs, and language shared by a group of people who are deaf.

Deaf–blind – A term that does not necessarily mean total lack of hearing and vision. Deaf – blind does mean that the combination of impairments interferes with the ability of a person to function effectively in the "hearing-sighted" world.

"Deaf and Dumb" or **"Deaf–mute"** – Highly offensive terms that should not be used.

Fingerspelling – Use of the hands and fingers to represent (spell) the letters of the alphabet for communicating with people who are deaf.

ALD (Assistive Listening Device)/FM System – An assistive listening system consisting of a transmitter microphone worn by the speaker and an FM receiver worn by the student with hearing loss, which can be used to help reduce the adverse effects of background noise and the distance between the speaker and listener.

Hard of Hearing (HOH) – Refers to a person who has lost some hearing ability.

Hearing Carry Over (HCO) – A system for people who have difficulty speaking clearly through the telephone and prefer to listen for themselves through Relay NC while typing their side of the conversation.

Lipreading – The ability to understand the oral language or speech of a person by observing lip movements and facial expressions. This skill is correctly referred to as speechreading. However, only about 30% of what a person says can be understood through speechreading.

Interpreter – A trained professional bound by a code of conduct, which includes strict confidentiality. The role of the interpreter is to facilitate communication only; the interpreter cannot add or delete any information at any time. The interpreter is trained to translate – change messages from sign language to Spoken English.

Pidgin Signed English (PSE) – A mix of ASL (American Sign Language) rules and English grammar. The signs used in PSE come from ASL, but they are not used in an ASL way, but rather in a more normal English pattern.

Signed Exact English (SEE) – A form of communication/instruction in which signs are used in exact English word order, with some additional signs for conventions such as the "ing" word ending.

Signer – A person who is able to communicate using sign language, but is not recognized as a professional interpreter.

Speech to Speech (STS) – A system for people with mild to moderate speech disability who have difficulty being understood clearly through the telephone. Using Relay NC and speaking for themselves, they communicate specially trained operators who re-voice their conversation to the other party.

GLOSSARY OF NEW TERMS CONTINUED

TECHNOLOGY

ALD (Assistive Listening Device) – Makes use of radio frequencies, light rays or magnetic inductive energy to transmit sound. Hardwired ALD use direct electrical connection to transmit the auditory signal.

CART-CAN – A system in which a typist uses software that converts the shorthand of the speech to written English through a personal computer, and the words appear on a screen visible to the audience.

CapTel® Relay Services – A service provided free of charge through Relay NC that uses a caption telephone. The service transcribes everything the other party says into written text (captions) using voice-recognition technology.

Closed Captioning – Also known as subtitles, allows people who are deaf or hard of hearing to read what is being said on TV, in movies or during presentations. Captions are hidden in the video signal, invisible without a special decoder.

Internet Relay – A service that allows deaf/hard of hearing individuals to place Relay calls using the Internet.

Relay North Carolina – A public service offered through the State of North Carolina that enables TTY users to communicate by telephone with any standard telephone users.

Relay North Carolina Operator – The person who connects the TTY user to the standard phone user and relays the conversation verbatim between the two parties.

Text Pagers – Email-based communication tools. They communicate to other pagers or computers using a vibrator to alert the users when a message arrives. Some pagers have extra service features such as live TTY chat, instant message chat, voice to text or text to voice, website browsing, direct connection to AAA or organizational tools (calendar, address book, calculator).

TTY (Text Telephone) – Allows people who are deaf, hard of hearing, and hearing or speech disabled to read telephone conversations on a lighted screen. A TTY looks very similar to a typewriter keypad except that it has a text screen.

Voice Carry Over (VCO) – A system for people who have difficulty hearing clearly through the telephone and prefer to speak for themselves through Relay NC.

Videophone – Introduces the world of video conferencing over the Internet to bring people – family, friends, and colleagues – together.

Weather Alert Radio – Warning system about bad weather, tornadoes and disasters for schools, businesses and home.

TIPS FOR COMMUNICATING WITH PEOPLE WITH HEARING LOSS

- First, to get the person's attention:
  - Tap gently two or three times on the shoulder
  - Wave
  - Flash lights in the room
- Ask the person how he or she wants to communicate.
- Use eye contact with the person.
- Write notes (simple words).
- Use facial expressions and gestures.
- Use an interpreter.

FREQUENTLY ASKED QUESTIONS

How long does it take to learn sign language?
It depends on the individual's level of immersion and interaction. No two individuals are alike. Everyone learns at a different pace.

Do deaf people accept hearing people learning sign language?
Yes. Sign language is popular and in high demand within the United States.

Can deaf people drive? How do deaf people communicate while driving?
Yes. Deaf people are considered safe drivers and are very observant of other cars.

Can deaf people read lips?
Yes and no. It depends on each individual. Ask the deaf individual first.

Can deaf people have kids?
Yes. Deaf people can do anything but hear.

Will deaf people have deaf kids?
Only 10% of deaf parents have deaf kids – 90% do not.

Can deaf people work?
Yes. Deaf people are just like anyone else. Many are doctors, dentists, teachers, directors, preachers, counselors, principals – the list goes on and on.

Can deaf people talk on the phone?
Yes. See the *Technology* and *Relay NC* chapters of this curriculum.

Why do deaf people move their hands?
They use hands to talk in sign language.

Why do deaf people move their faces?
A facial expression is a form of communication.

Why do deaf people tap other deaf people's shoulders?
They tap to get their attention.

Why do deaf people need an interpreter?
Some deaf people need an interpreter to understand and participate in their surroundings.

How do deaf people watch TV and movies?
Deaf people watch TV and movies using a system called Closed captioning, which "types" the words being said directly on the screen. Deaf people "read" TV and movies.

CMONCOMEON **SOTMG**SHORTOFTIME,MUSTGO **SRSLY**SERIOUSLY

"A DAY IN MY LIFE – Deaf and Proud"

By: Jessica O.
Grade 10

I consider myself a normal teenager; I just experience life a little differently. I wake each morning, not to the sound of an alarm, but the vibration of my bed. When someone is at the front door, I don't hear a knock or a doorbell, I don't hear the phone ring; instead, I see lights flash. You see I'm deaf. When you come to my house or school, you see a unique culture that has a strong base. I do normal things that other teenagers do. I go to the mall and the movies. At the movies, I watch the action but do not always get all of the story line as I do not hear the words. Sometimes I have to wait for the movie to be shown at a theater with open captions or come out on video to understand the whole story. This is when the dialogue is typed and shown on the screen. All my televisions at home are closed-captioned also. Instead of a cell phone, I have a communication device that allows me to send text messages and email. I also am able to make calls through Relay. I or my family members or friends contact with hearing members of my family at all times. When I'm on school trips, I can contact my mom at any time. I have swum competitively, but instead of hearing the starting buzzer, I watch the interpreter for my start signal. That causes a little bit of a delayed start, which I know means I have to swim a little bit faster. High school basketball games at my school are interesting. In addition to the roar of the fans, the hearing audience will hear the beat of the drum for the cheerleaders to keep time for their cheers. They might see players pause while playing to sign information or fuss at each other. That sometimes causes them to miss the ball. When you look around the game, you will see fingers flying as people talk to each other. You will not see people talking on cell phones, but instead will see fingers flying on their Sidekicks as they send email or text messages to friends. My life is the same as other teenagers, just experienced a little differently. I'm proud to be deaf because I have many opportunities that I can do just as hearing people do. Also, I like to be different from hearing people. It makes me more unique. That's why I'm proud to be deaf.

SUBJECT
Hearing Loss Awareness

LESSON TOPIC
Using Relay NC

TIME
Two 45-minute periods

QLQUIT LAUGHING **SWL**SCREAMINGWITHLAUGHTER

Program Outcome(s)/Goal(s)/Expectation(s)
Students will demonstrate the ability to read for a variety of purposes and respond through global understanding, interpretation, personal response and critical stance.

Program Indicator(s)
Students will gain information from a variety of forms when reading to be informed or reading to perform a task.

Student Outcome(s)
Students will utilize expository text to construct meaning, interpret pictographic: representations, identify the overall purposes of a task and who will perform the task, summarize what the task requires one to do and identify the relevance of the task to one's needs. Students will read to perform a task.

Context for Learning
Prior to this lesson, students should be familiar with specific vocabulary and language symbols (See Handout #1).

Students today are familiar with both telephones and typewriter-like keyboards. A TTY looks much like a standard telephone that is combined with a keyboard, a text screen and/or a paper printout. It is used by people who are deaf, hard of hearing, deaf-blind, or who have speech disabilities to communicate directly with another TIY or with any standard telephone user through Relay NC. Students will learn how to use a TTY and understand how Relay NC works (See Handout #2).

Materials Needed
- Understanding Relay NC Vocabulary (Handout #1)
- Using Relay NC (Handout #2)
- K – W– L: What I think I know, What I want to know, What I learned (Handout #3)
- Relay NC a Communication Model (Teacher Resource Sheet & Handout # 4)
- Model of a Communication System (Handout #5)
- Patterns (Handout #6)
- How many words… (Handout #7)
- Videos: "Connect to Your Future," "How to Use Relay," "A Day in the Life of Relay" & "Relay Solutions" PSA
- How Relay Happens (Handout # 8)
- How CapTel® Happens (Handout # 9)
- Index Cards
- String
- Cups
- Teacher Resources

INSTRUCTIONAL DELIVERY

Opening Activities/Motivation

Ask students what they already know about how people with hearing loss communicate. Use a K-W-L chart (Handout #3) to record responses. Ask students what they want to learn about how people who are deaf or speech disabled communicate by telephone and in person. Record responses on the chart. Save the chart for later use following the lesson.

Read the definition of communication to students: Communication is a two-way process. It involves two or more people who alternately send and receive information. For communication to succeed, the two people in a conversation need to use a shared means for sending and receiving information. People with hearing loss or speech disabilities may send and receive messages in several different ways when face to face or in two different places.

Procedure

1. Read the student outcomes together.
2. View the videos: "Connect to Your Future" video that explains Relay NC and the TTY, and "A Day in the Life of Relay: Technology That Works".
3. Select several students to demonstrate how people with hearing loss could communicate using cups, string, index cards and labels. Have one student write a message on an index card, and ask him or her to send it to another student. The partner responds with another written message. And so on. Then, create a similar model to show how a deaf person can communicate through Relay NC. Have students hold one of the Relay NC Communication Models (Teacher Resource Sheet & Handout #4) to demonstrate the role played by each person in a conversation through Relay NC.
4. Students should explain this model orally or by using gestures.
5. For independent practice, students will construct a paper model of how people with hearing loss communicate via the telephone (Handouts #5 and #6).
6. Students will summarize the overall purpose of the TTY, who uses the TTY, and how the TTY operates.
7. Enrichment Activity: (Handout #7).

Assessment/Evaluation

Use Procedure #6 to evaluate students.

Closure

Refer back to the K-W-L chart. Review the information recorded in the beginning of the lesson. Ask students to tell what they learned about the ways people who are deaf, hard of hearing, deaf-blind or speech disabled communicate via the telephone. Record responses in the third column.

HANDOUT #1

USING RELAY SERVICES

UNDERSTANDING RELAY VOCABULARY

DRAW A LINE TO THE CORRESPONDING PICTURE:

1. The kind of phone used by a person who is deaf or speech disabled.

2. The kind of phone used by a person who is hearing.

3. The specially trained operator who connects people who are deaf or speech disabled to a hearing person.

4. The building where many specially trained operators work.

5. The symbol for a TTY that you would see in public places.

6. The symbol for a standard telephone that you would see in public places.

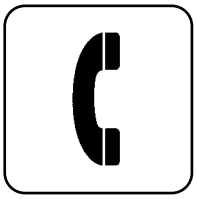
7. The abbreviation used to let the Relay Operator know each person has finished talking.

8. The equipment that uses sign language interpreters and high-speed Internet service to communicate.

9. The kind of phone that is used by a hard of hearing person to read and talk at the same time.

CapTel® Phone

VRS



GA

USING RELAY SERVICES

Relay Users Keep in Touch

People who are deaf, hard of hearing or speech disabled use the telephone in many different ways. Relay NC, a public service offered by the State of North Carolina, enables people who are deaf, hard of hearing, deaf-blind, or speech disabled and use a TTY (text telephone) to communicate with anyone who uses a standard telephone.

How Relay NC Works

A call may be made by a person using either a standard telephone or a TTY. In North Carolina, dial 7-1-1, or 877-735-8200 from anywhere, and give the Relay NC Operator (OPR) the phone number of the person you would like to call. The OPR connects you with the TTY user and then relays the conversation back and forth between the two of you. The TTY user types his or her side of the conversation into the TTY, and that message is read to you by the OPR. The OPR then types your words back to the TTY user. Remember to say "Go Ahead" or "GA" each time you finish your part of the conversation so the other person knows to speak.

The TTY

A TTY (text telephone) allows a person who is deaf, hard of hearing, speech disabled or deaf-blind to make a telephone call. It looks very similar to a telephone except that it has a typewriter keypad and a text screen and/or a paper printout. The conversation is read by the TTY user on the text screen and/or the paper printout. The person using a TTY may call another TTY user directly, or any standard phone user, by placing the call through Relay NC. People can also use their personal computers to access Relay NC.

CapTel® Relay

A CapTel® (captioned telephone) allows a person who is deaf or hard of hearing and has understandable speech to make a telephone call. It looks very similar to a telephone, but with a large text screen. The caller talks through the phone, and the other person hears and talks back to the user. The text screen has captions that "type" the conversation as text from the other party. The deaf or hard of hearing caller is able to hear and read everything the other person says. CapTel® works only on a standard phone line; it will not work on digital phone lines. This phone is available in North Carolina through the NC Division of Services for the Deaf and the Hard of Hearing's Telecommunication Equipment Distribution program.

USING RELAY SERVICES

Internet Relay

Callers can use the internet to make Relay calls by going to one of various websites. This allows a person to place Relay calls as if they had a TTY. The caller simply enters the number. The operator will then call the party the user wants to call and will relay the call, reading what is said to the person called, using Internet Relay. This internet service is available anywhere in the United States and its territories. It is free; there are no long distance charges. People often use Internet Relay when they don't have access to a TTY or have a computer with an Internet connection available.

Video Relay Services

A person who uses sign language can use Video Relay Service to make a Video Relay Call. The user must have a videophone or a webcam, and high-speed internet service instead of dial-up internet service. In the IP (internet protocol) address bar, the caller would insert the address of the video relay service provider, which would connect to a Relay interpreter. The interpreter will interpret the Relay call in sign language for the caller. This is a way for a deaf person to make calls quickly and enjoy faster conversations.

Wireless Relay

A caller can use a pager's Internet to make Relay calls. If the person has a wireless hand-held computer (PDA, short for personal digital assistant) for email and phone, he or she can download various programs that will allow communication with others using Relay services. The caller uses a keyboard on the phone and types to the operator through Relay. Another way to use Relay is Instant Messaging. Callers add their service provider to their buddy list. Anytime they want to make a call, they click on the wireless provider buddy, and give the operator the number to call. The operator communicates with the caller as an instant messaging buddy.

HANDOUT #2

USING RELAY SERVICES

Relay Users Keep in Touch

People who are deaf, hard of hearing or speech disabled use the telephone in many different ways. Relay NC, a public service offered by the State of North Carolina, enables people who are deaf, hard of hearing, deaf-blind, or speech disabled and use a TTY (text telephone) to communicate with anyone who uses a standard telephone.

How Relay NC Works

A call may be made by a person using either a standard telephone or a TTY. In North Carolina, dial 7-1-1, or 877-735-8200 from anywhere, and give the Relay NC Operator (OPR) the phone number of the person you would like to call. The OPR connects you with the TTY user and then relays the conversation back and forth between the two of you. The TTY user types his or her side of the conversation into the TTY, and that message is read by the OPR. The OPR then types your words back to the TTY user. Remember to say "Go Ahead" or "GA" each time you finish your part of the conversation so the other person knows to speak.

The TTY

A TTY (text telephone) allows a person who is deaf, hard of hearing, speech disabled or deaf-blind to make a telephone call. It looks very similar to a telephone except that it has a typewriter keypad and a text screen and/or a paper printout. The conversation is read by the TTY user on the text screen and/or the paper printout. The person using a TTY may call another TTY user directly, or any standard phone user, by placing the call through Relay NC. People can also use their personal computers to access Relay NC.

CapTel® Relay

A CapTel® (captioned telephone) allows a person who is deaf or hard of hearing and has understandable speech to make a telephone call. It looks very similar to a telephone, but with a large text screen. The caller talks through the phone, and the other person hears and talks back to the user. The text screen has captions that "type" the conversation as text from the other party. The deaf or hard of hearing caller is able to hear and read everything the other person says. CapTel® works only on a standard phone line; it will not work on digital phone lines. This phone is available in North Carolina through the NC Division of Services for the Deaf and the Hard of Hearing's Telecommunication Equipment Distribution program.

Internet Relay

Callers can use the internet to make Relay calls by going to one of various websites. This allows a person to place Relay calls as if they had a TTY. The caller simply enters the number. The operator will then call the party the user wants to call and will relay the call, reading what is said to the person called, using Internet Relay. This internet service is available anywhere in the United States and its territories. It is free; there are no long distance charges. People often use Internet Relay when they don't have access to a TTY or have a computer with an internet connection available.

RELAYNC

USING RELAY SERVICES

Video Relay Service

A person who uses sign language can use Video Relay Service to make a Video Relay Call. The user must have a videophone or a webcam, and high-speed Internet service instead of dial-up internet service. In the IP (internet protocol) address bar, the caller would insert the address of the video relay service provider, which would connect to a Relay interpreter. The interpreter will interpret the Relay call in sign language for the caller. This is a way for a deaf person to make calls quickly and enjoy faster conversations.

Wireless Relay

A caller can use a pager's internet to make Relay calls. If the person has a wireless hand-held computer (PDA, short for personal digital assistant) for email and phone, he or she can download various programs that will allow communication with others using Relay services. The caller uses a keyboard on the phone and types to the operator through Relay. Another way to use Relay is Instant Messaging. Callers add their service provider to their buddy list. Anytime they want to make a call, they click on the wireless provider buddy, and give the operator the number to call. The operator communicates with the caller as an instant messaging buddy.

HANDOUT #3

USING RELAY SERVICES

K – W – L CHART

On this chart, record your thoughts about how people with hearing loss communicate by telephone and in person.

K	W	L
What I think I know…	**What I want to know…**	**What I learned…**

HANDOUT #4

USING RELAY SERVICES

RELAY COMMUNICATION MODEL LABELS

TELEPHONE
TTY
RELAY OPERATOR
VIDEO RELAY SERVICE
CAPTEL®

RELAY COMMUNICATION MODEL LABELS

TELEPHONE
TTY
RELAY OPERATOR
VIDEO RELAY SERVICE
CAPTEL®

TEACHER RESOURCE

HANDOUT #5

USING RELAY SERVICES

MODEL OF A COMMUNICATION SYSTEM

READING TO PERFORM A TASK

Follow directions to construct a model of a communication system.

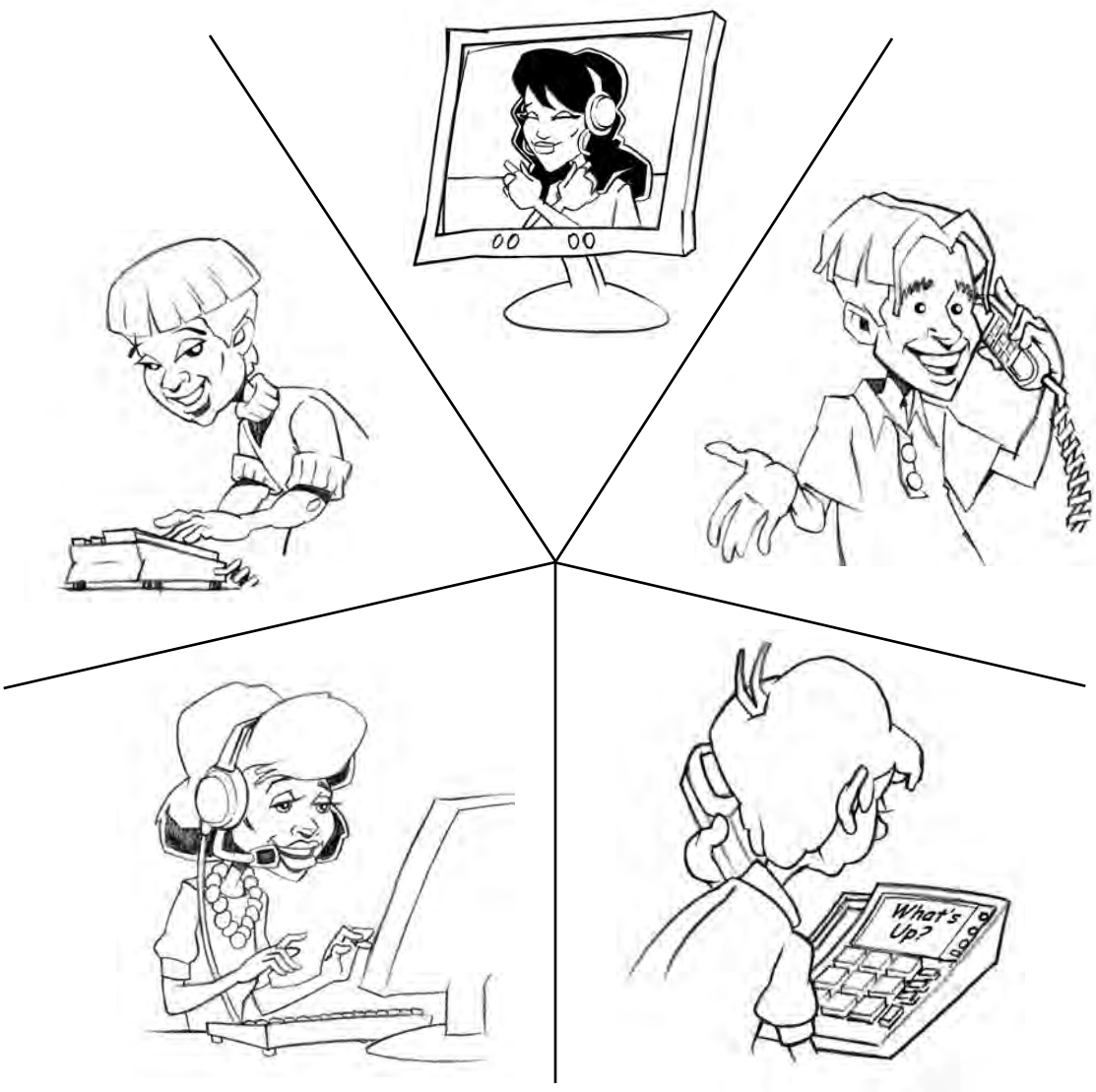
MATERIALS: Pattern pieces (Handout #6), scissors, glue, paper.

1. Cut out the pattern pieces.
2. Glue them on your paper to show how they work together.
   **Hint: Use lines or arrows.
3. Label each picture.
4. Write a paragraph explaining your model. Be sure to include answers to the following questions:
   – What is the main purpose?
   – Who would use this system?
   – How does this system work?

HANDOUT #6

USING RELAY SERVICES

PATTERNS

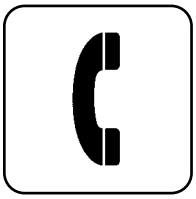


HANDOUT #7

USING RELAY SERVICES

How Many Words Can You Make Out of:

TELEPHONE **CALL**



These are universal telephone and TTY (text telephone) signs. You will see these signs in large public places such as airports, shopping malls or rest areas to let people know that a standard and TTY phone are available for public use.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____

RELAYNC

SIX DIFFERENT TYPES OF RELAY SERVICE

RELAY SERVICE	BENEFITS/FEATURES	EQUIPMENT NEEDED	INSTRUCTIONS
TTY Relay The traditional way to use the Relay service.	• Only need a TTY and telephone. • Available in some public places with the TTY logo.	• TTY • Telephone	Using a TTY and telephone, dial 7-1-1 to get a Relay Operator (RO). The RO facilitates communication between you and the other caller. You type to the RO.
Voice Carry Over (VCO) A service that allows deaf/hard of hearing individuals to speak directly to a hearing person while using the Relay Operator to understand what the hearing person is saying.	• Effective for a person who wants to speak for him/herself to the other caller but cannot hear well on the phone.	• TTY and telephone or a VCO phone • A phone line	Using a TTY and telephone or a VCO phone, dial 877-735-8260 to get connected with the Relay Operator (RO). When the hearing person speaks to you, the RO serves as your "ears" and types everything said to your TTY or VCO phone. You speak to the hearing person.
Internet Relay A service that allows deaf/hard of hearing individuals to place Relay calls using the Internet.	• No TTY needed. • No domestic long distance charges. • No high-speed internet access required. • All dialogue can be seen on a split screen.	• A computer • A phone line • A web browser like Netscape or Explorer • Internet service	Using a computer, type the address of your Internet Relay provider to get the setup page. Type your message for the person you are calling to the Relay Operator (RO).
Video Relay Service (VRS) A service that allows a more natural telephone communication between the two telephone users. VRS is like having your own personal interpreter wherever you have your computer.	• Good for a person who wants to use sign language when making a phone call. • Good for a person who wants to see the response in ASL through a Video Interpreter (VI).	• A computer • A web camera • Special video software • High-speed internet access (Cable, T-1, DSL or ISDN) OR • A videophone and • A television	Using a computer, type the address of your VRS provider to get the setup page. Sign your message for the person you are calling to the Video Interpreter (VI). OR Using a videophone and television, call your VRS provider and give the VI the number of the person you are calling.

SIX DIFFERENT TYPES OF RELAY SERVICE
CONTINUED

RELAY SERVICE	BENEFITS/FEATURES	EQUIPMENT NEEDED	INSTRUCTIONS
Video Relay Service/Voice Carry Over (VRS/VCO) A service that allows deaf/hard of hearing individuals to speak directly to a hearing person while using the Video Interpreter (VI) to understand what the other is saying.	• Good for a person who wants to use voice when making a phone call. • Good for a person who wants to see ASL in response (used by Video Interpreter).	• A computer • A web camera • Special video software • Broadband high-speed internet access (cable, T-1, DSL or ISDN) • Netmeeting OR • A telephone or cell phone • A videophone and • A television	Using a computer, type the name of your service provider to get a Video Interpreter (VI). Explain that you wish to make a VCO call and give the VI your telephone number and the number of the person you are calling. The VI will call you on the telephone. Then the VI will call the hearing person and conference him or her into the call. You speak to the hearing person. OR Using a television and videophone, dial your service provider to reach a VI. Explain that you wish to make a VCO call. Give the VI your phone number and the number of the person you are calling. The VI will call you on the telephone. The VI will then call the hearing person and conference him or her into the call.
CapTel® A service that allows a deaf or hard of hearing person to speak directly to a hearing person while reading captions of what the other person is saying.	• Good for a person who wants to speak for himself or herself as well as read and hear the other party.	• A CapTel® phone • Analog phone line	Pick up the phone and dial the phone number. Read the other party's response and carry on the conversation like a regular phone call.

TEACHER RESOURCE

HANDOUT #8

USING RELAY SERVICES

POST ASSESSMENT

Complete this chart using your own words.

6 DIFFERENT TYPES OF RELAY SERVICES

RELAY SERVICE	BENEFITS/FEATURES	EQUIPMENT NEEDED	INSTRUCTIONS
TTY Relay The traditional way to use the Relay service.		• TTY • Telephone	
Voice Carry Over (VCO) A service that allows deaf/ hard of hearing individuals to speak directly to a hearing person while using the Relay Operator to understand what the hearing person is saying.		• TTY and telephone or a VCO phone • A phone line	
Internet Relay A service that allows deaf/ hard of hearing individuals to place Relay calls using the internet.		• A computer • A phone line • A web browser like Netscape or Explorer • Internet service	
Video Relay Service (VRS) A service that allows a more natural telephone communication between the two telephone users. VRS is like having your own personal interpreter wherever you have your computer.		• A computer • A web camera • Special video software • High-speed internet access (Cable, T-1, DSL or ISDN) OR • A videophone and • A television	

HANDOUT #8 CONTINUED

USING RELAY SERVICES

Complete this chart using your own words.

6 DIFFERENT TYPES OF RELAY SERVICES

RELAY SERVICE	BENEFITS/FEATURES	EQUIPMENT NEEDED	INSTRUCTIONS
Video Relay Service/ Voice Carry Over (VRS/ VCO) A service that allows deaf/ hard of hearing individuals to speak directly to a hearing person while using the Video Interpreter (VI) to understand what the other is saying.		• A computer • A web camera • Special video software • Broadband high-speed internet access (cable, T-1, DSL or ISDN) • Netmeeting OR • A telephone or cell phone • A videophone and • A television	
CapTel® A service that allows a deaf or hard of hearing person to speak directly to a hearing person while reading captions of what the other person is saying.		• A CapTel® phone • Analog phone line	

HANDOUT #8 CONTINUED

USING RELAY SERVICES

Answer the following questions:

1) A. Which types of Relay services do you plan to use in the future? Please list them.

_____

_____

_____

_____

B. Explain why you will use the ones that you selected above.

_____

_____

_____

_____

2) Are there people and places you can call now that you could not have called before learning about Relay services?

_____

_____

_____

_____

3) Would you like more Relay services information or practice?

_____

_____

_____

_____

4) Now that you know about the six types of Relay services, what would you tell a younger deaf/hard of hearing student about them?

_____

_____

_____

_____

SUBJECT
Hearing Loss Awareness

LESSON TOPIC
Students-to-Students Program

TIME
45-minute periods

W84MEWAITFORME **YKWYCD**YOUKNOWWHATYOUCANDO

Program Outcome(s)/Goal(s)/Expectation(s)
Students will demonstrate the ability to read for a variety of purposes and respond through global understanding, interpretation, personal response and critical stance.

Program Indicator(s)
Students will gain information from a variety of forms when reading to be informed or reading to perform a task.

Student Outcome(s)
Students will utilize expository text to construct meaning, interpret pictographic representations, identify the overall purposes of a task and who will perform the task, summarize what the task requires one to do and identify the relevance of the task to one's needs. Students will read to perform a task.

Background
The Students-to-Students program was developed in 1995 by James A. Stevenson, a Board certified member of the Governor's Advisory Board for Telecommunications Relay and former librarian of Bealle Elementary School in Frontburg, MD. The goals of the program are to remove communication barriers between students who are speech disabled, deaf, hard of hearing, or deaf-blind and hearing students and to increase awareness of Relay NC among the hearing population.

Context for Learning
Prior to this lesson, students should be familiar with Relay NC from the previous chapter. In this chapter, they will actually make a Relay call.

Students today are familiar with both telephones and typewriter-like keyboards. A TTY looks much like a standard telephone that is combined with a keyboard, a text screen and/or a paper printout. It is used by people who are deaf, hard of hearing, deaf-blind, or who have speech disabilities to communicate directly with another TTY or with any standard telephone user through Relay NC. Students will learn to use a TTY and understand how Relay NC works.

The teacher will need the following materials:
- Students-to-Students Survey of Interests (Handout #1)
- Placing a Call Using Relay NC with a Standard Telephone (Handout #2)
- Placing a Call Using Relay NC with a TTY (Text Telephone) (Handout #3)
- How Relay Happens (Handout # 4)
- How CapTel® Happens (Handout # 5)
- Tips for Using Relay NC (Handout #6)
- Students-to-Students Journal (Handout #7)
- Students-to-Students Teacher Program Evaluation (Handout #8)
- Teacher Resources

RELAYNC

HANDOUT #1

STUDENTS-TO-STUDENTS PROGRAM

SURVEY OF INTERESTS

Name: _____ Date: _____

School: _____ Phone: _____

1. What are some of the fun or interesting things you like to do when you are not in school?

_____

_____

_____

_____

_____

2. Do you have any pets? If so, what kind? If not, would you like one?

_____

_____

_____

_____

_____

3. Do you have any brothers and sisters?

_____

_____

_____

_____

_____

4. What is your favorite food?

_____

_____

_____

_____

_____

HANDOUT #2

STUDENTS-TO-STUDENTS PROGRAM

PLACING A CALL THROUGH RELAY NC

USING A STANDARD TELEPHONE

1. Dial 711 or 877-735-8200.
2. When you hear the words "Relay NC, Operator XXX, the number you are calling, please…," tell the operator the number you wish to call, including the area code. Example: "Please call (919) 123-4567."
3. While the Relay Operator is dialing the number, you will not hear anything. When the person you have called answers their his or her telephone (TTY), you will hear the operator say, "Hello, GA." GA means "go ahead." It is your turn to speak.
4. Speak slowly, clearly and directly to the person you are calling, not to the Relay Operator.
5. Remember to say "Go Ahead" or "GA" each time you finish your part of the conversation so the other person knows to speak.
6. Don't hang up until the Relay Operator tells you the other person has hung up.

RECEIVING CALLS FROM RELAY USERS

1. When answering your telephone at work or at home, you may receive a call placed through Relay NC. You will hear a Relay Operator say, "Hello, a person is calling you through Relay NC. I'm Relay Operator XXX. Have you received a Relay call before?"
2. If you answer "No," the Relay Operator will explain how Relay NC works.
3. If you say "yes," the call will proceed, and the Relay Operator will voice everything to you that the person who is deaf, hard of hearing or speech disabled types on his or her TTY. Everything that you say in response will be typed back to the TTY user's device. The Relay Operator will continue relaying the messages back and forth until the conversation has ended.
4. Remember to say "Go Ahead" or "GA" each time you finish a sentence. When the Relay Operator says "Go Ahead" back to you, it is your turn to speak.

RELAYNC

HANDOUT #3

STUDENTS-TO-STUDENTS PROGRAM

PLACING A CALL THROUGH RELAY NC

USING A TEXT TELEPHONE (TTY)

1. Dial 711 or 800-735-2962.
2. Wait until you see "RNC, OPR xxxxM/F, GA" come across the screen on your TTY; then type in the number you wish to call, including the area code.
3. While the Relay Operator is dialing, you will read, "Dialing number, ringing 1… 2… 3… 4…" (or "the number is busy").
4. When the person you are calling answers the telephone, the Relay Operator will type what he or she says. Example: "Hello" or "Thanks for calling the Pizza Palace." The Relay Operator may first need to explain what a Relay call is to the person you are calling, and then he or she will type "GA."
5. When you see "GA" on your TTY screen, you may begin typing your part of the conversation.
6. Remember to type "GA" each time you finish typing your thoughts so the other person knows to speak.
7. When you are ready to hang up, type "GA to SK." That lets the other person know that you are ready to hang up. When that person says goodbye, you can type "SKSK" and hang up.

RELAYNC

HANDOUT #4

TTY TO VOICE

HOW RELAY NC HAPPENS: TTY

- A TTY User dials the 800 number to Relay and types his or her conversation to a CA (Communications Assistant/Relay Operator) who then reads the typed message to the Voice User (hearing person).
- The CA relays the hearing person's spoken words by typing them back to the TTY User.

TTY User

Voice User

Communications Assistant

1 TTY or ACSII User dials the 800 number to Relay and types his or her message

2 CA reads and voices the typed message and listens and types the spoken message

3 Voice User listens and then voices his or her reply

HANDOUT #5

CAPTEL®

HOW RELAY NC HAPPENS: CAPTEL®

CapTel® User

1 Talks to the Voice User...

Voice User

2 ...who talks back for the CapTel® user to hear.

3 Everything said by the Voice User also goes through captioning service...

Communications Assistant

4 ...which transcribes their words into captions...

5 ...for the CapTel® user to read on the display.

HANDOUT #6

VOICE CARRY OVER (VCO)

HOW RELAY NC HAPPENS: VOICE CARRY OVER (VCO)

- VCO allows deaf or hard of hearing people who prefer to use their own voice to speak directly to the party they are calling.
- The CA (Communications Assistant or Relay Operator) will type the voice responses back to the VCO User, who reads the typed message across the TTY screen.

Communications Assistant

4 CA listens and types the message to the VCO User

VCO User

1 VCO User speaks

2 Voice User listens

5 VCO reads the typed message

Voice User

3 Voice User speaks his or her response

HANDOUT #7

SPEECH-TO-SPEECH

HOW RELAY NC HAPPENS: SPEECH-TO-SPEECH

- Speech-to-Speech allows customers with speech disabilities to use their own voices to make calls, with the assistance of specially trained CAs (Communications Assistants or Relay Operators).
- When spoken words become difficult to understand, the CA assists verbally, making communication between both parties as clear and personal as possible.

Communications Assistant

2 CA listens and assists verbally if necessary

Person with Speech Disability

1 Person with a Speech Disability

Voice User

3 Voice User listens and speaks directly to the person with a speech disability

TEACHER RESOURCE

TTY TO VOICE

HOW RELAY NC HAPPENS: TTY

- A TTY User dials the 800 number to Relay and types his or her conversation to a CA (Communications Assistant/Relay Operator) who then reads the typed message to the Voice User (hearing person).
- The CA relays the hearing person's spoken words by typing them back to the TTY User.

TTY User

Voice User

Communications Assistant

1 TTY or ACSII User dials the 800 number to Relay and types his or her message

2 CA reads and voices the typed message and listens and types the spoken message

3 Voice User listens and then voices his or her reply

TEACHER RESOURCE

HOW RELAY NC HAPPENS: CAPTEL®

CapTel® User

1 Talks to the Voice User...

Voice User

2 ...who talks back for the CapTel® user to hear.

3 Everything said by the Voice User also goes through captioning service...

Communications Assistant

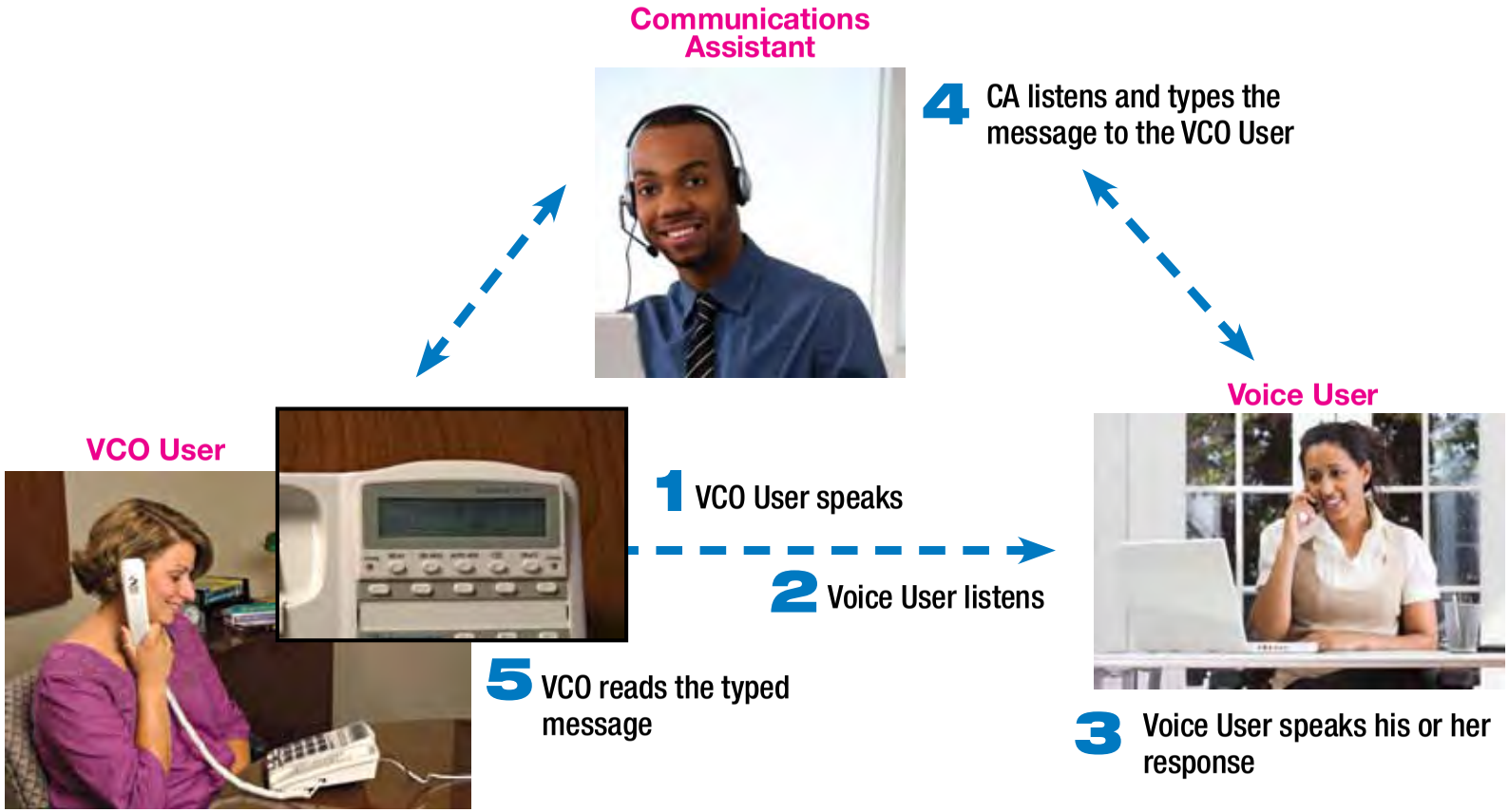
4 ...which transcribes their words into captions...

5 ...for the CapTel® user to read on the display.

TEACHER RESOURCE

HOW RELAY NC HAPPENS: VOICE CARRY OVER (VCO)

- VCO allows deaf or hard of hearing people who prefer to use their own voice to speak directly to the party they are calling.
- The CA (Communications Assistant or Relay Operator) will type the voice responses back to the VCO User, who reads the typed message across the TTY screen.



TEACHER RESOURCE

SPEECH-TO-SPEECH

HOW RELAY NC HAPPENS: SPEECH-TO-SPEECH

- Speech-to-Speech allows customers with speech disabilities to use their own voices to make calls, with the assistance of specially trained CAs (Communications Assistants or Relay Operators).
- When spoken words become difficult to understand, the CA assists verbally, making communication between both parties as clear and personal as possible.

Communications Assistant

2 CA listens and assists verbally if necessary

Person with Speech Disability

1 Person with a Speech Disability

Voice User

3 Voice User listens and speaks directly to the person with a speech disability

HANDOUT #8

STUDENTS-TO-STUDENTS PROGRAM

TIPS FOR USING RELAY NC

- **When you receive a Relay NC call, don't hang up!**

  The person calling you is deaf, hard of hearing or speech disabled and is using Relay NC to call you.

- **Say "Go Ahead" or "GA" after each thought.**

  Remember that the Relay Operator must type everything you say, so try to speak clearly, and slowly. It is not necessary to speak loudly. When the Relay Operator says "Go Ahead" to you, it's your turn to speak.

- **Speak directly to the other person, not to the Relay Operator.**

  The Relay Operator is not part of the conversation and will not acknowledge you if you speak to him or her. Continue your conversation as if the Relay Operator is not present.

- **The Relay Operator will type everything that is heard.**

  This allows TTY users to have a more natural calling experience. The Relay Operator must type your words exactly as you say them.

- **Be patient.**

  Relay NC calls take a few minutes longer than standard telephone calls, so please be patient.

RELAYNC

HANDOUT #7

STUDENTS-TO-STUDENTS PROGRAM

STUDENTS-TO-STUDENTS JOURNAL

Name of Caller: _____ Date: _____

Name of Relay Service Used: _____

Person Called: _____

What did you discuss during the call?

_____

_____

_____

_____

_____

What are your comments about the call?

_____

_____

_____

_____

_____

Is there anything you need to remember for the next call?

_____

_____

_____

_____

_____

STUDENTS-TO-STUDENTS TEACHER

PROGRAM EVALUATION

A. Please list the benefits you have experienced as a participant in the Students-to-Students program.

_____

_____

_____

_____

_____

B. Do you have any suggestions or comments that would help improve the program in future years?

_____

_____

_____

_____

_____

C. Would you be willing to participate in this program again?

_____

_____

_____

_____

_____

GENERAL OVERVIEW OF RELAY NC

BACKGROUND INFORMATION

For individuals with a hearing or speech disability, the standard telephone can often function as a barrier to communication. In 1990, Title IV of the Americans with Disabilities Act required that a Telecommunications Relay Service be put into place in each state to remove this barrier. Relay NC, a public service administered by the Division of Services for the Deaf and Hard of Hearing satisfies this mandate. The North Carolina Department of Health and Human Services contracts with a vendor to provide this service. Relay NC allows telephone communication between standard phone users and TTY (text telephone) users. TTY users may be deaf, hard of hearing, deaf-blind or speech-disabled. Relay NC may be accessed from any phone, anywhere, anytime, and there are no set-up fees or costs for local calls. Relay NC can also make international calls.

Relay NC allows anyone to speak to people who have had hearing loss since birth or childhood or may have stopped using the telephone due to progressive hearing loss. Both parties may initiate calls, and receiving a call is as simple as answering your telephone.

Who Uses Relay NC?

Relay NC is traditionally thought of as a phone system for the deaf, but that is not completely true. There are many reasons people cannot use a standard telephone and Relay NC has features in place to make the telephone communication accessible to all individuals, regardless of one's communication needs. Relay NC allows business, government agencies, organizations and private citizens to have telephone contact with anyone, anytime.

Relay NC Features

A. Standard Relay

A person using a TTY (text telephone) types and reads conversation; the person may be deaf, hard of hearing or speech disabled.

B. VCO (Voice Carry Over)

A person with a hearing loss and understandable speech, speaks for himself or herself using a special designed telephone with a lighted display screen; the voice heard will be that of the other party, and the Relay Operator will type the other side of the conversation to him or her.

C. HCO (Hearing Carry Over)

A person with a speech disability hears responses and types his or her side of the conversation: the Relay Operator will voice the words to the listener.

D. Speech-to-Speech (STS)

A speech disabled individual using a standard telephone calls a specially-designated Relay number, 877-735-8261, and uses his or her own voice while the Relay Operator listens carefully and repeats what is said to the other party. The other party will hear the responses.

E. Businesses, Families and Friends

Anyone who wants to contact a TTY user may reach Relay NC from a standard telephone. NO extra equipment is needed.

GENERAL OVERVIEW OF RELAY NC
CONTINUED

Language Differences
Many people who are deaf speak in American Sign Language (ASL), a visual language system that is not based on English. There may be ASL users who are not proficient in communicating in typed English using a TTY. For this reason, there may be some misunderstanding during a conversation. If you have difficulty understanding the content of a Relay conversation, ask the Relay Operator for an ASL Translator. An ASL Translator will translate the conversation for both you and the other party.

Control of the Call
As a Relay NC user, you have control of a Relay call. This means that if you are not satisfied with a Relay Operator for any reason, you may request another Relay Operator or speak to a supervisor. You do not have to offer any type of explanation for the request. Whenever you place or receive a Relay call, it is helpful to write down the Relay Operator's number, the date and the time of the call. The Relay Operator handling your call should give it to you at the beginning and the end of each call. To maintain confidentiality and transparency, Relay Operators will never divulge their names. By recording the Relay Operator's number, you will be able to provide us with valuable feedback, if necessary. We recommend that you address any concerns you have while you are on the phone with Relay NC.

PBX (Private Branch Exchange) System and 7-1-1
When calling Relay NC through a PBX system (those that require dialing "9" or "8" before the phone number) and using the 877-735-8200 Relay Access number, you may hear two high-pitched tones, before the Relay Operator answers your call. To avoid hearing these tones, use 7-1-1 to call Relay NC from anywhere in the state. Occasionally, 7-1-1 is not available through a PBX system. If you encounter this difficulty, please contact the telecommunications manager of your system, or the PBX coordinator from your building. Ask that person to re-program the PBX switch software to allow 7-1-1 access.

Long Distance Charges
Long distance calls placed through Relay NC can be billed to your carrier of choice simply by giving the Relay Operator your long distance information when placing a Relay call. If you do not provide a specific company, the call will be billed through Relay NC's current provider at a reduced rate.

More Information
The NC Division of Services for the Deaf and the Hard of Hearing and Relay NC both offer free training to businesses and their employees on handling requests for business from deaf, hard of hearing, deaf-blind or speech-impaired individuals. To schedule a training session or for more information, call Relay NC's Customer Service office at 800-999-5737 or visit Relay NC's website at www.RelayNC.com or contact one of the Division's seven regional centers. To find a regional center nearest you, go to the Division's website at www.ncdhhs.gov/dsdhh.

MAKING AND RECEIVING RELAY NC CALLS

RECEIVING CALLS FROM RELAY USERS

1. When answering your telephone at work or at home, you may receive a called placed through Relay NC. You will hear a Relay operator say, “Hello, a person is calling you through Relay NC. I’m Relay Operator XXX. Have you received a Relay call before?”
2. If you answer “No,” the Relay Operator will explain how Relay NC works.
3. If you say “yes,” the call will proceed, and the Relay Operator will voice everything to you that the person who is deaf, hard of hearing or speech disabled types on his or her TTY. Everything that you say in response will be typed back to the TTY user’s device. The Relay Operator will continue relaying the messages back and forth until the conversation ends.
4. Remember to say “Go Ahead” or “GA” after each thought. When the Relay Operator says “Go Ahead” back to you, it is your turn to speak.
5. Read the “Tips” section below to ensure smooth, efficient Relay Call handling.

MAKING RELAY CALLS TO FRIENDS AND FAMILY WITH HEARING LOSS

1. Dial 711 or 800-735-8200.
2. When the Relay Operator answers, give the 10-digit number of the person you are calling.
3. Once the person you are calling answers, proceed with the call as you would a regular call.
4. Remember to say “Go Ahead” after each thought. When the Relay Operator says “Go Ahead” back to you, it is your turn to speak.
5. See the following “Tips” section to ensure smooth, efficient Relay Call handling.

TIPS FOR USING RELAY NC

When you receive a Relay NC call, don’t hang up!

The person calling you is deaf, hard of hearing or speech disabled and is using Relay NC to call you.

Say “Go Ahead” or “GA” after each thought.

Remember that the Relay Operator must type everything you say, so try to speak clearly and slowly. It is not necessary to speak loudly. When the Relay Operator says “Go Ahead” to you, it’s your turn to speak.

Speak directly to the other person, not to the Relay Operator.

The Relay Operator is not part of the conversation and will not acknowledge you if you speak to him or her. Continue your conversation as if the Relay Operator is not present.

The Relay Operator will type everything that is heard.

This allows TTY users to have a more natural calling experience. The Relay Operator must type your words exactly as you say them.

Be patient.

Relay NC calls take a few minutes longer than standard telephone calls, so please be patient.

STANDARD TTY ABBREVIATIONS

Here are some suggested abbreviations you and your callers can use in TTY conversations. Using them saves time and money on long distance calls.

:)	Smile
:(	Sad or regrets
2	two or to
2T	today
4	for
ABT	about
ANS	answer
ASAP	As soon as possible
ASST	Assistant
BIZ or BUZ	Business
BTW	By the way
BCUZ or CUZ	Because
CD, CLD, or CUD	Could
CUL	See you later
EDUC or EDU	Education
FIGS	Figures
GA	Go ahead or your turn to type
GA SK	About to hang up
HD or HID	Hold
ILY	I love you
IMPT	Important
MIN PLS	One moment, please
MSG or MSGE	Message
MTG	Meeting
NBR	Number
NXT	Next
OFC	Office
OIC	Oh, I see
OK	Okay or Alright
OPR	Operator
PLS	Please
Q	Question mark
R	Are
RDY	Ready
REC	Receive
SERV	Service
SD or SHD	Should
SK	Stop key (end call)
SKSK	Hanging up
TTD	Telecommunications Device for the Deaf
THKS, TKS THX	Thanks
THRU	Through
TMR/TMRW	Tomorrow
TTY	Text telephone
U	You
URS	Yours
WUD	Would
XX or XXX	Erases an error

TEACHER RESOURCE

RELAYNC

COMMUNITY RESOURCES

ZZZZSLEEPING **GAL**GETALIFE **IMI**IMEANIT **KC**KEEPCOOL

COMMUNITY RESOURCES

Organizations in North Carolina

North Carolina Association of the Deaf, Inc.: www.NCADeaf.org
North Carolina Black Deaf Advocates: www.NBDA.org
North Carolina Deaf Blind Associates: www.NCDBA.org
Hearing Loss Association of North Carolina: www.NCHearingLoss.org
North Carolina Registry of Interpreters for the Deaf: www.NCRID.org
North Carolina American Sign Language Teachers Association: www.NCASLTA.org

State Agencies in North Carolina

Division of Services for the Deaf and the Hard of Hearing: www.ncdhhs.gov.dsdhh/
Division of Vocational Rehabilitation Services: http://dvr.dhhs.state.nc.us
Division of Services for the Blind: www.ncdhhs.gov/dsb/index.htm
Division of Mental Health, Developmental Disabilities and Substance Abuse Services: www.ncdhhs.gov/mhddsas/index.htm

North Carolina Schools for the Deaf and DPI Info

Office of Educational Services: www.ncoes.net
Department of Public Instruction: www.ncpublicschools.org
North Carolina School for the Deaf – Morganton, NC: www.NCSD.net
Eastern North Carolina School for the Deaf – Wilson, NC: www.ENCSD.net

North Carolina State Government Links

NC CareLink: www.nccarelink.gov
NC Government: www.NCGov.org

National Organizations

National Association of the Deaf: www.NAD.org
National Black Deaf Advocates: www.NBDA.org
Hearing Loss Association of America: www.HearingLoss.org
American Association of the Deaf-Blind: www.AADB.org
National Family Association for Deaf-Blind: www.nfadb.org
Registry of Interpreters for the Deaf: www.RID.org
American Sign Language Teachers Association: www.ASLTA.org

COMMUNITY RESOURCES CONTINUED

Information and Clearinghouse for Teachers/Educators

Laurent Clerc National Deaf Education Center at Gallaudet University:
http://clerccenter.gallaudet.edu/

Web Link for NC Educators

Carolina Clips: http://etips.dpi.state.nc.us/sitemap.htm

Relay NC: www.RelayNC.com

The Deaf Resource Library: www.deaflibrary.org

Deaf Web: www.DeafWeb.com

Deaf Blind: www.DeafBlind.org

Google Search Engine: www.Google.com