



Lesson # 29

Lesson Plan  
Revised 7/06

## Voice, Hearing, and Stuttering

Teachers, this is a basic lesson plan that you may modify at your discretion.

Grade Level: 3 - 4

**Modifications to Video:** There may have been several changes to the lesson plan since the video was made. This lesson plan reflects the latest changes made as a result of suggestions from teachers who have presented the lesson during the daytime program. Please continue to send us your ideas!

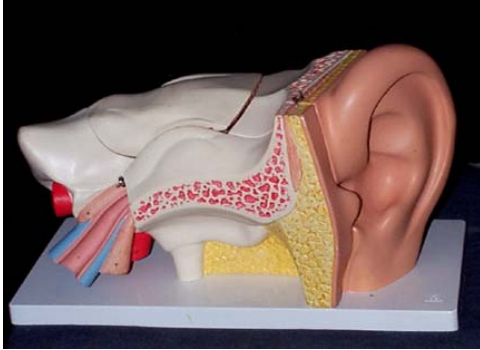
**Overall Educational Objectives:** Students will be able to identify the parts of the ear. Students will experience stuttering.

**Materials List:**

- 5 - DAF boxes and headsets
- 5 - DAF power supplies
- 5 - Metronomes
- 10 - Books "Oh Say Can You Say"
- 1 - Oscilloscope w/ microphone
- 1 - Model of the ear
- 1 - Laminated diagram of the ear
- - Alcohol and swabs
- 2 - Power strips
- 1 - extension cord

**Lesson Activities:**

1. Review the five senses. Tell the students they will learn about hearing and how it relates to speaking.
2. Show the model of the ear. Go over the parts of the ear while quizzing students periodically as a review.



3. Introduce the concept that some children stutter or have other types of trouble speaking. Sometimes these children go to special teachers called Speech Pathologists Explain that students will get to see some of the things a speech pathologist does to help students learn to speak correctly.
4. The teacher should have one group of students use a special machine called a **Delayed Auditory Feedback Device** or a DAF. When the children talk into the DAF machine, a little time will pass before they actually hear themselves in the headphones. (A knob on the DAF machine will allow you to set the appropriate amount of time from when you talk to when you hear yourself in the headset). Students should try to read one of the tongue twisters from the "Oh Say Can You Say" book while wearing the DAF headset.



5. Another group of students should be allowed to experiment with the oscilloscope. Speech Pathologists sometimes use a machine similar to an oscilloscope to allow students to see what their voice sounds like and compare it to what it should sound like.

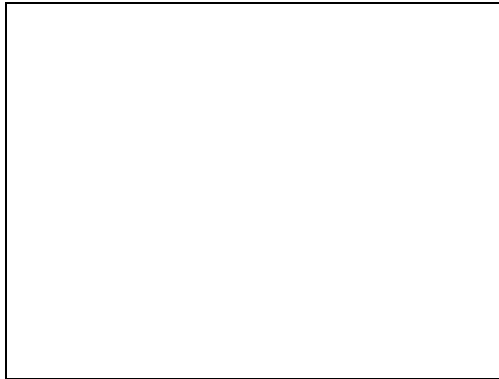


6. Another group of students should try reading one of the tongue twisters from the “Oh Say Can You Say” book very fast, and then try the tongue twister saying one syllable with each beat of the metronome. This is another way that speech pathologists sometimes help students who stutter.
7. Call attention to the career fields that are related to this module. Discuss how students might prepare for occupations that interest them.

### Teacher Tips:

- Place the students into groups of five. Make enough copies of the [attached diagram of the ear](#). While other groups are coloring the diagrams of the ear, have one group at a time come into the DAF center. Allow this group to work with the

DAF machines and watch their reaction. Make sure that the headphones are cleaned after each student (with the alcohol swabs provided).



Click on ear for printable version.

- The DAFs can be set up as a work center cluster away from the main group.
- Some of the headsets have volume and microphone control on the cord.



**Safety Precautions:** Watch the volume on the DAF's. The headsets should be handled with care.

**Background Information:** The outer ear is made of cartilage.

The three little bones in the middle ear mechanically amplify the sounds that we hear.

Tiny hairs in the inner ear detect the sounds we hear.

The inner ear is also used for balance. The semicircular shapes of the inner ear have fluid in them and nerves that detect when that fluid moves

(As of 1990) 20 million people have some hearing loss, and almost 1/3 comes as a result of damage from loud noises.

Males are more likely to stutter or having hearing loss than females.

Singing uses a different part of the brain, so someone who stutters may still be able to sing well.

**References:**

- [Science News](#) v150, July 13 '96, p.23 "Brain Scans Show Inner Side of Stuttering" Discusses how brain-scanning technology has provided insight into the cerebral foundations of stuttering.
- [How We Hear](#) by Judith Orwell 612.F948 This book describes how we hear and explains with diagrams and text what the inner ear looks like and how it functions.
- [The Stuttering Home Page](#) Provides information on stuttering.
- [Computers and Electronic Devices for Stuttering](#) Another site providing information about stuttering.

**Please make your students aware that this lesson relates to the following:**

**Career Fields:**

Technical, Social-Humanitarian

**Occupations:**

- **Audiologist:** They examine and provide services for persons with speech and hearing disorders. They plan and conduct programs that aim to restore or improve communication. They give and interpret tests for hearing and speech, as well as develop client treatment plans and provide language therapy. They also work with educational, medical, and social groups to coordinate test results.

**Education: Master's Degree**

**Review Questions:**

1. Using the ear model review the different parts of the ear. Where is the ear drum? Where is the outer ear? Where is the ear canal? etc.
2. What is a DAF machine? What does it simulate?
3. How does sound travel from its source to our ears.

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