Student Learning Outcomes: At the end of this course students will be able to:	**Course Topic:** The following topics will address this outcome.	**Evaluation of Outcome:** This evaluation will be primarily evaluated by:
- Demonstrate knowledge of the physics of sound and the measurement of its dimensions, and apply basic principles of acoustics to human hearing and speech by carrying out screening and prevention procedures during evaluation of hearing disorders	Chapter 11: Guidelines for Audiologic Screening: ASHA Panel on Audiologic Assessment	Practical assignment: The student will be graded by the instructor, or teaching assistant using the rubric
- Demonstrate knowledge of the physics of sound and the measurement of its dimensions, and be able to apply basic principles of acoustics to human hearing and speech by calculating out the signal to noise ratio in a classroom setting	Chapter 4: Classroom acoustics: ASHA endorsement of the ANSI S12.60-2002, Acoustical Performance Criteria, Design Requirements and Guidelines for Schools standard.	Practical assignment: The student will be graded by the instructor, or teaching assistant using the rubric

Group members: _____ Date:_____

RATE 0--3 SCALE

3 No improvement necessary
2 Competed with some difficulty
1 Unsuccessful attempt
0 No attempt

Supervised hearing screen, adult +40

BEHAVIOR	RATING			
Room set-up and equipment set-up	**0**	**1**	**2**	**3**
Checked for calibration sticker				
Performed listening check of audiometer				
Place client out of view of cues				
Set-up of audiometer				
Fix appropriate intensity 25dB +40				
Set frequency at 1,000 for start				
Case history interview Hearing Handicap Scale				
Five cardinal Signs				
Administered / scored handicap scale				
Screening instructions				
What to listen for				
How they should respond				
Earphone placement				
Placed on correct ears				
Proper position				
Screening procedure				
Fix intensity				
Sweep frequency for each ear				
Change ear				
Report Results				
Proper recommendation based on results				
Report results to client in professional manner				
TOTAL /48				

COMMENTS:

Supervisor: _____

Group members: _____ Date:_____

RATE 0--3 SCALE

3 No improvement necessary
2 Competed with some difficulty
1 Unsuccessful attempt
0 No attempt

Supervised hearing screen, school-age

BEHAVIOR	RATING			
Room set-up and equipment set-up	**0**	**1**	**2**	**3**
Checked for calibration sticker				
Performed listening check of audiometer				
Place client out of view of cues				
Set-up of audiometer				
Fix appropriate intensity 20dB school-age				
Set frequency at 1,000 for start				
Screening instructions				
What to listen for				
How they should respond				
Earphone placement				
Placed on correct ears				
Proper position				
Screening procedure				
Fix intensity				
Sweep frequency for each ear				
Change ear				
Report Results				
Proper recommendation based on results				
Report results to client in professional manner				
TOTAL /42				

COMMENTS:

Supervisor_____

Audiometry: Sound level assignment

Learning objective:
-Apply the term signal to noise ratio (s/n) to a classroom situation
-Use a basic sound level meter
-Apply the inverse square law
-Appreciate the ASHA recommended signal to noise level in a classroom setting for children with hearing loss.

Check out a sound level meter or use an application (app) on your own device (iPad or smartphone). There are several that are free or very inexpensive $.99.

You will need to take 2 separate decibel measurements.

1. Measure the decibel level of a signal (teacher's voice one foot from their mouth)
2. Measure the decibel level of background noise.

The comparison of the two values is a ratio.... the signal to noise ratio.
You will need to measure the distance between the signal (teacher) and where you measured the background noise.

I recommend Decibel Meter Pro by Performance Audio. It was 99cents in the iTunes App store. You can set the weight scale to A.

You may setup the situation you measure, one student plays teacher while other takes the measure. It may even be a real classroom situation.

Scenario....

Classroom: Measure teacher's voice (signal) 1foot away, note the dB level
Measure constant background noise of the classroom where a child sits in the class. Note the level when the class is full of students but not at a time when the teacher is talking. Note the dB level.
Measure how far (in feet) the teacher (signal) is from where you measured.

Now the math:
Calculate the signal / noise ratio. Is it at an acceptable level for classroom instruction?

Name:_____ Name: _____

Signal level 1 foot away _____dB SPL
Constant background noise of classroom _____dB SPL
Distance from where signal was measured to place where background measurement was made, _____ feet
With the above information and understanding the inverse square law...calculate what the signal level of the teacher's voice would be at the place of background measure:
_____ dB SPL Show your work below or on the back:

Report the signal to noise ratio _____ signal / noise

Is the measured signal to noise ratio acceptable for classroom instruction? Yes? No?
Support by sighting your reference: