

HEARING LOSS

Supplemental Activity 2

Field Trip

Materials Needed: noise level meter (available at electronics stores for about \$60), clipboard for recording levels, earplugs for each student to use in noisy environments

Identify a typical local farm that has a variety of implements, livestock, and functions. Ask the farm owner for permission to bring students to the farm for a field trip. Indicate to the farmer that your students will be assessing only the noise levels of different operations. They will not be critiquing the farm itself or the people involved in the operation.

One student is designated to conduct the noise level readings of the various equipment, machinery, or noisy area. The student will use the sound meter and record the decibel level (using the A scale) but will not reveal it to the other students until they return to class.

Provide each student with a “thermometer” with the indicated decibel ratings. As the group tours each area of the farm, have the students rank the designated area on the chart according to their perception of noise level in the area. As you stop at each point, discuss the noise, its origin, severity, and points unique to that area and noise.

NOTE: Students should use the “arm length rule” for judging if an area is too noisy to stay in without hearing protection. The rule is “if at two arm’s lengths you cannot be heard and understood without raising your voice the noise level is too high.”

Upon returning to the classroom, create the scaled thermometer on the board and ask for student responses to each area of noise designated on the farm. Rate their responses on the chart, and compare with the actual decibel levels, noting variations between student ratings and variations between the class rating and actual ratings.

- Discuss the reasons for variations between the students' ratings (*tolerance, distance from noise source, existing hearing damage, etc.*) and the actual ratings.
- Discuss with the class the need for using personal protective equipment, as well as limiting exposure time.
- Have students discuss and design barrier protection that would decrease noise levels. (examples: cab the tractor; place sound absorbing material around workshop)

NOTES: The teacher may need to preview the farm to be visited to identify and designate particular points of interest to the class and set up for some demonstrations and times. *examples: farmer to have tractor or machinery available to run, feeding times for livestock (which will be louder than non-feeding times), etc.*

This is an excellent activity to conduct in cooperation with the science or physics teacher in your school.