

Name: _____

Date: _____



Safe Listening Activity: Sound Check (Measuring Sounds)



Noise is any sound that you don't want to hear that interrupts communication. Noise can negatively affect hearing health. Being around loud noise is harmful to your ears—it changes how well you can hear important sounds, like speech and music. Noise can also upset us and can make it hard to concentrate. Measuring sound levels helps us understand what is safe and what is not.

Directions

Today, you'll use a free app to explore sounds—the National Institute for Occupational Safety and Health (NIOSH) Sound Level Meter App (or, “SLM app”; see <https://www.cdc.gov/niosh/noise/about/app.html>). NIOSH developed the free SLM app for occupational safety and health professionals as well as for the public. The user can calibrate this tool and use it for scientific measurements; however, today's activity does not require calibration.

Materials Needed:

- Smartphone or tablet with NIOSH SLM app installed
- A pencil and the *Sound Check Worksheet* (see next page)
- Access to **different school locations** (classroom, hallway, cafeteria, gym, playground) or access to **different sound sources** (a ticking clock, a fish tank, birds chirping, toys that make noise)

Activity Demonstration:

- a. Open the NIOSH SLM app.
- b. The top of the screen will show a measurement of the sound level using your device's built-in microphone.
- c. Point the microphone end of your device at the noise source.
- d. Press the play button to start recording for a calculation of the LAeq (which measures the average sound energy over a specific period of time)
 - i. You can make an LAeq measurement for any amount of time—but, for this activity, measure the sound for 10 seconds. You will see a timer under the “total run time” area on the app.
- e. Press “pause” after 10 seconds.
- f. Record the LAeq number listed.

Sound Check Worksheet

Select three to five sounds to measure. Using the NIOSH SLM app and a phone or tablet, measure each sound and record your results in the table below.

Sounds above 75 decibels can put your hearing at risk.

Location or Sound	LAeq Sound Level (dB)	Safe or Unsafe?

Reflection Questions

1. Which sound was the loudest?

2. Were any sounds above 75 dB?

3. What could you do to reduce loud sounds and protect your hearing when you are around these sounds?

4. Share one interesting fact that you learned from clicking on the "noise info" icon on the NIOSH SLM app.
