

1. Introduction

- a. Hello! Introduction
- b. What are Dangerous Decibels
- c. 3 Ways to Protect Your Hearing
- d. Rules for Classroom Management



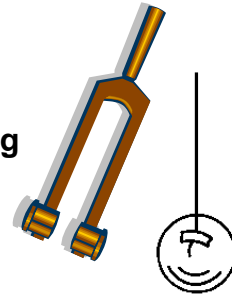
KEY MESSAGES:

- Hearing loss caused by loud sounds is a problem for people of ALL AGES
- When sounds are too loud, they can damage your hearing! If it is a very loud sound, JUST ONE EXPOSURE can damage your ears.
- Kleenex, toilet paper, and cotton balls are NOT good ear protection.

Transition to #2: Let's start by learning about sound.

2. What Is Sound?

- a. Explanation: Sound is Vibration
- b. Activity: Tuning Forks: listening and touching
- c. Activity: Tuning Forks and Ping-Pong Balls



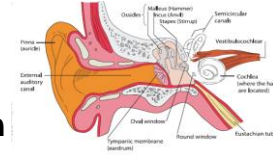
KEY MESSAGES:

- It is the POWER in the sound vibrations that can damage our ears

**Transition to #3:
Now we know what makes a sound, but how do we hear?**

3. How Do We Hear?

- a. Explanation: Vibrations through Ear to Brain
- b. Activity: Ear Anatomy Poster



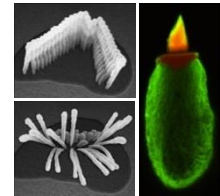
KEY MESSAGES:

- Cochlea is fluid-filled with thousands of tiny sensors called HAIR CELLS
- On top of the hair cell are even smaller structures called HAIR BUNDLES that are moved by vibrations in the fluid.

Transition to #4: We know that we detect sound vibrations with the tiny hair cells in our ear. We know that vibrations from loud sounds have POWER. Let's see how loud sound can permanently break our hair cells and cause hearing loss. Let's build a model!

4. How Do We Damage Our Hearing?

- a. ACTIVITY: Hair Cell Model (Pipe Cleaners)



KEY MESSAGES:

- HEALTHY HAIR BUNDLE: stands nice and straight
- DAMAGED HAIR BUNDLE: Sound that is too loud can damage hair cells. When the hair bundles no longer stand up straight, they cannot respond to vibrations, and this results in hearing loss. Hair cells can be permanently damaged and can't be fixed.
- Loud sound exposure can also cause TINNITUS

Transition to 5: We have learned about what happens inside the ear when LOUD sound breaks hair cells. But what is it like to have hearing loss? Our next activity will show us what it is like to listen to sound with *damaged ears*.

5. What's That Sound?

- a. **ACTIVITY: Dangerous Decibels
dBZone! What's that Sound"**
- b. Identify sound with and without hearing loss



KEY MESSAGES:

- It is difficult to hear and recognize some sounds when you have hearing loss. You have to work at it.
- Hearing loss from loud sound exposure does NOT mean you completely lose your hearing and can't hear anything at all.

Transition to 6: Having a hearing loss is a struggle. You miss out on a lot of wonderful and important sounds. We know that loud sound can cause permanent damage to our ears. Let's learn how loud some sounds are, and how long we can safely listen to them before hurting our ears can be hurt.

6. How Loud is Too Loud?

- a. **ACTIVITY: FLASH CARDS**
- b. Associate sounds with different decibel levels and safe listening time.
- c. Identify which method of hearing protection is best practice when exposed to dangerous decibels from different sources.



KEY MESSAGES:

- 85 dBA is very important number and can listen to safely for 8 hours
- The higher the decibel level the shorter the time for safe listening.
- Is the sound safe or dangerous? What can they do to protect their hearing?

Transition to 7: Now that we know how much sound energy it takes to damage our ears, let's learn how to protect ourselves.

7A. Protecting Our Hearing: TURN IT DOWN!

a. ACTIVITY: HEADPHONE Flash Card



KEY MESSAGES:

- Headphones can produce dangerous sound levels
- Simply turning down your music will allow you to listen safely for longer periods of time
- TURN IT DOWN so you can enjoy your music for a lifetime

Transition: Now that we know how much sound energy it takes to damage our ears, let's learn more about the 3 ways to protect ourselves.

7B. Protecting Our Hearing: WALK AWAY

a. ACTIVITY: BLENDER Sound Level Measurements



KEY MESSAGES:

- Sound energy DECREASES as you move away from the source.
- Simply by moving back or WALKING AWAY a few steps, you moved from a clearly dangerous sound level to a safe one.

Transition: Sometimes we are around intense sounds, and we cannot turn down the volume. We are going to do an experiment to learn another way to protect our hearing.

7C. How to Use Earplugs

a. ACTIVITY: Earplug Fitting Practice



KEY MESSAGES:

- Earplugs have to seal well to keep out dangerous sound
- How to insert, remove and clean earplugs
- Where to buy earplugs/earmuffs for replacement

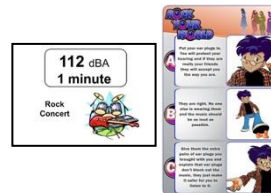
Transition to 9: Up to this point we have learned;

- **How vibrations make sound, and sound has energy**
- **How we hear, and how loud sounds can damage our hair cells**
- **There are many things that make dangerous sounds**
- **3 easy ways to protect ourselves from dangerous sounds**

Now, let's talk about what YOU would do if you knew you needed to use earplugs, but your friends didn't think so.

8. Rock Your World: Time to Act!

a. ACTIVITY: ROCK YOUR WORLD CARDS



KEY MESSAGES:

- Tell a STORY, you and your friends are going to an event
- Students practice making personal decisions
- Lead discussion regarding decision choices

Transition to END: Review the 3 ways to protect your ears

THANK THE CLASS