

Name:

Hearing Your Heartbeat (Teacher Version)

Source of Sound

Name the source of each sound. What was vibrating?

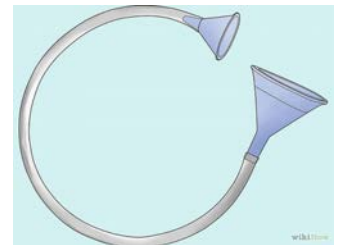


- When the girl strums the guitar, the **vibrating strings** send sound waves echoing out of the hole.
- The wind blows the chimes into one another, causing the **metal to vibrate** and produce sound.
- The cat is happy, causing it to vibrate muscles in its throat and produce sound through the gaps.
- The tuning fork is struck, causing the **ends to vibrate** and produce sound.

Super Listener Earphones!

Materials:

- 2 plastic funnels
- 1 metre of plastic tubing



Instructions:

1. Push a plastic funnel into each end of the plastic tubing. Push hard so the funnels stay in place.

2. Place one funnel over your heart, and the other over your ear. What do you hear?

Think About It...

1. What is the apparatus that doctors use to check our heart?
A *stethoscope*.

2. How do these devices work?

They capture sound waves and send them through the tube directly into the doctor's (or your) ear. This way you can listen to the sounds of the body to hear if anything seems off.



Name: _____

Listening To Everyday Objects - Activity!

Materials

- Slinky™
- Metal Coat Hanger
- Fork
- Spoon



Task 1: Hold one end of your earphones near the Slinky™, and the other at your ear. Have a partner pluck the Slinky™ while you listen.



Task 2: Using two sets of earphones, have an end near each end of the coat with the other ends of the earphones held to your ear. Have a partner tap the hanger while you listen.



Task 3: Hold one end of your earphones near the fork, and the other at your ear. Have a partner pluck the fork while you listen.



Task 4: Hold one end of your earphones near the spoon, and the other at your ear. Have a partner pluck the spoon while you listen.



Talk About It!

1. Did any of the objects make noise before they were tapped? *They shouldn't; there were no vibrations to make sound if they were perfectly still.*
2. What was similar about all the sounds? *They continued as long as they were being tapped, and lasted a bit after.*

Listen To Your Heart - Activity

Predict: How many times do you estimate your heart beats in 1 minute?

1. Using your Super Listener Earphones, count how many times your heart beats in 15 seconds. Have a partner time for you. Write your number here: _____ beats in 15 seconds.

2. Multiply the number of beats you counted by 4 (to get beats per minute). This is your **resting heart rate**. Write your number here: _____ beats in 1 minute.

3. How close was your estimate?

4. Do you think your heart rate goes up or down with exercise? Test it out!



Name:

Image Sources:

Source of Sound:

1. Clipart Fort: <http://www.clipartfort.com/girl-playing-guitar/>
2. Rustic Home: <http://www.rustichome.com/unique-wind-chimes-2/>
3. Smirking Cat: <http://smirkingcat.wordpress.com/2012/08/16/am-i-purring/>
4. Steve Weiss Music: <http://www.steveweissmusic.com/category/drum-key-tuning-fork>

Super Listener Earphones:

1. GoGraph: <http://www.gograph.com/stock-illustration/bottleneck.html>
2. Freelin Wade: <http://www.freelin-wade.com/images.htm>
3. Wikihow: <http://www.wikihow.com/Make-a-Homemade-Stethoscope>

Listening to Everyday Objects – Activity:

1. eHam: <http://www.eham.net/articles/23260>
2. Polyvore: http://www.polyvore.com/coat_hanger_clip_art/thing?id=39986743
3. Clker: <http://www.clker.com/clipart-fork.html>
4. Crafty Jenny: <http://www.craftyjenny.com/free-clip-art-download-teaspoon.html>

Think About It...

1. Clipart Pin: <http://clipartpin.com/stethoscope-clipart-1.html>

Listen To Your Heart – Activity:

1. Treat Doc: <http://treatdoc.com/get-strong-heart-balance-ball/>