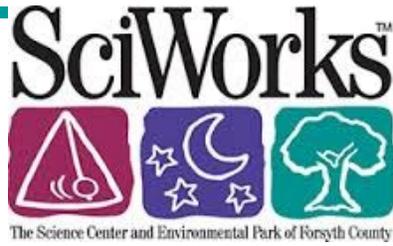


**Sounds All  
Around**



preK-3

# **PRE-VISIT ACTIVITY**

## **Sound**

-Unknown Author

Pssst!

Have you heard what's going around?

Sound!

Do you know how sound behaves?

It travels in invisible waves.

How do you know the waves are there?

They vibrate through the air.

When the waves reach our ear,

Sound is what we hear!

Pssst!

Have you heard what's going around?

Sound!

## PRE-VISIT ACTIVITY

### Demonstrating Sound Waves

Sound waves are a type of pressure wave caused by the vibration of an object in a conductive medium. To demonstrate how sound waves travel, drop a pebble into a container of water.

#### Materials:

Large rectangular plastic storage box, filled with about 2 inches of water

Small objects like pebbles

“With the wave tank one can demonstrate that: the size (amplitude) of the waves is related to the energy of the source (controlled by the mass and drop height); the waves expand outward (propagate) in circular wavefronts; the wave height decreases and eventually dies out with distance away from the source (or with time after the source) because of spreading out of the wave energy over a larger and larger area (or volume); the waves have a speed (velocity) of propagation that can be measured by placing marks every 4 inches (10 cm) on the bottom of the tank and timing the wave with a stopwatch; the waves reflect off the sides of the tank and continue propagating in a different direction after reflection.” ([http://web.ics.purdue.edu/~braile/edumod/slinky/slinky.htm#Waves\\_Water](http://web.ics.purdue.edu/~braile/edumod/slinky/slinky.htm#Waves_Water))



# AFTER-VISIT ACTIVITY

## Rubber Band Orchestra

Use these simple items to explore concepts such as vibration, resonance, pitch and volume. Compare the instruments to a voice, which is produced by vibrations of vocal chords, thin folds of tissue stretched across an area of the throat called the larynx.

### What you need:

Empty cardstock/cardboard packages of various sizes

Rubber bands (3 1/2" x 1/8" or larger work well)

### Steps:

- 1.) Stretch rubber bands over container openings.
- 2.) Students take turns playing the various instruments by plucking the rubber bands at the openings.
- 3.) Have students record their observations on the following page. Things to notice:
  - How low or high is the pitch (noise) that the instrument makes?
  - How loud or soft the instrument can be played?
  - What does the instrument feel like as it is played?
  - Compare the instruments—why does one make a louder noise than another?
  - Compare the instruments—why does one make a higher pitch noise than another?
  - What happens when the rubber band is pressed down at various locations while being plucked?



**Sounds All  
Around**



preK-3

# AFTER-VISIT ACTIVITY

Name: \_\_\_\_\_

## Rubber Band Orchestra

Draw the instrument that made the loudest noise.	Draw the instrument that made the lowest pitch noise.
Draw the instrument that made the softest noise.	Draw the instrument that made the highest pitch noise.
Compare the loudest and softest instruments. How are they different?	Compare the lowest and highest pitch instruments. How are they different?