



# OMSI EARLY LEARNER ACTIVITY: GOOD VIBRATIONS

**Objective:** Students will experiment with various noise sources, including their own voices. Students will gain an understanding of the connection between sound and vibration through hands on experiments.

**Age Range:** 4 & up

## CONTENT TOPICS

Hearing  
Sounds  
Vibration

## PROCESS SKILLS

Listening  
Observing

<sup>1</sup> Science Process Skills <sup>2</sup> Head Start Child Outcomes <sup>3</sup> Oregon Early Childhood Foundations

## TIME REQUIRED

### Advance Preparation

About 10min

### Set Up

About 10min

### Activity

About 30min

### Clean Up

About 10min

## MATERIALS

**Required:** Tuning fork\*, Pan or unbreakable bowl, Water (approximately 0.5 - 0.8 liters, or 2 – 3 cups), Drum, Rice

## ADVANCE PREPARATION

- Collect supplies.
- Set up water bowl

## EXPLANATION

*The following is a sample of some scientific explanations behind this subject. (for more information, see the book “Sounds All Around” in the Discovery Box.*

- *When you talk, sing or hum, your vocal cords shake back and forth very fast. This is called **vibrating**. The vibration of the vocal cords causes the air around them to vibrate too. These vibrations move through the air and are called **sound waves**.*
- *You can't see sound waves, but when they reach your ear, tiny bones in your ear vibrate. Then you should **hear** the sound.*
- *Beating a drum makes it vibrate. Then the air around it vibrates. These vibrations ripple through the air. They travel from the drum to your ears, and you hear the sound of the drum.*
- *The amount of motion in a sound wave determines its loudness or softness*

## INTRODUCING THE ACTIVITY

*To introduce the topic, explore the children's knowledge on the subject through open-ended questions.*

**Ask:**

Who has heard the sound that a drum makes?

Has anyone ever played the drums?

Can you make a drumming sound on the table, floor, cabinets, doors? How?

**Do:**

Show the children how to feel the **vibrations** of their own voice by placing their hands on their chests while they talk, sing, hum or shout.

## ACTIVITY PROCEDURE

### Demo with Drum

1. Invite the children to gently tap the drum and see if they can notice any movement on the surface of the drum.
2. With the spoon, place a small amount of rice on top of the drum. Tap on the drum again. Notice if the rice moves.
3. Ask: Can sound move things? The rice was moved by **vibration**.

### Demo with Water bowl

1. Tap the tuning fork on the table and place it in the water. Ask the children to observe what happens.
2. Explain that the ripples in the water are actual sound waves. Sound waves are invisible. That is why we used the water to see them.

### Demo with Voice

1. Invite the children to be very quiet. Have them place their fingers on their throat very carefully.
2. Ask them to speak very softly. What do they feel with their fingers?
3. Now have them speak loudly. Did their fingers tingle more or less than before?

## DISCUSSION

*To discuss the topic, explore the children's knowledge on the subject through open-ended questions.*

**Ask:**

Who has heard the sound that a drum makes?

Has anyone ever played the drums?

Can you make a drumming sound on the table, floor, cabinets, doors? How?

**\* It is very important not to put the tuning forks up against your ear. This can cause nerve damage. Only listen from a far.**