

# Vibrating Water

Can you see sound vibrations?



## Materials:

- Water
- Galvanized dog bowls
- Tuning Forks of various sizes
- Mallets
- Large beach towels



## Preparation:

- Cover the table with a towel to avoid any splashes.

## Try This:

1. Fill the dog bowl halfway full of water and place onto the towel.
2. Hold the tuning fork by the handle in one hand.
3. Use the mallet in the other hand to strike the tuning fork prongs.
4. Listen and compare the sounds made by the different sizes of tuning forks. Which fork makes the lowest pitch? Which fork makes the highest pitch?
5. Touch the surface of the water in the dog bowl with the tuning fork prong. Don't touch the bowl with the tuning fork.
6. Watch the vibration from the tuning fork move to the water and cause the water to vibrate and splash out of the dog bowl.

## Want to Know More?

Sound is created when something vibrates. It might be the vocal cords in your throat when you speak, the surface of a drum when you bang on it, or the strings on the inside of a piano. Sound needs to travel through matter because the matter molecules vibrate and bounce into each other to carry the sound from its source to your ear. Sound can travel through all three states of matter commonly found on Earth, but it travels through solids most efficiently since the molecules of a solid are closer together. Sound cannot travel in space because the molecules are too far apart to vibrate into each other.

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## Facilitator Guide



### **Learning Objectives:**

- What is sound?
- How does sound travel?
- What is a vibration?

### **Leading Questions:**

- What do you observe happening to the tuning fork when it is hit by the mallet?
- What happens to the water when you touch the tuning fork to the surface?
- Have you seen something similar to this before?

### **Hospital Accommodations:**

- This activity can be done in any space, communal, or bedside. Be sure to consider your space and protect participants from any big spills.

### **Key Words:**

Sound - energy created by vibrating matter. Typically, humans use their sense of hearing to experience sound.

Vibration - when something moves back and forth quickly.