

Sound Waves and Vibration

Name: _____ Date: _____

LEARNING OBJECTIVE

The student will demonstrate that sound is produced by vibration and observe vibration directly.

MATERIALS NEEDED

- a rubber band
- an empty tissue box or small open box
- a drinking glass with a small amount of water
- your fingertip
- paper
- pencil

HANDS-ON ACTIVITY

1. Stretch a rubber band around an open box (or simply hold it stretched between two fingers) and pluck it. Watch and feel the vibration, then describe what you see and hear.
2. Lightly touch the rubber band while it is vibrating and notice how it feels different from touching it while still — record your observation.
3. Fill a glass about 1/4 full with water. Wet your fingertip and gently rub it around the rim of the glass in a circular motion until you hear a tone, then place your other hand flat on the table near the glass to feel any vibration through the table.
4. Speak or hum loudly with your hand placed gently on your own throat, and describe what you feel.
5. Write a short paragraph (3-4 sentences) explaining, using all 3 demonstrations, why sound requires vibration to be created.

QUESTIONS

1. What did you feel when you touched the vibrating rubber band?

2. What did you feel on your throat when speaking or humming?

3. Based on your 3 demonstrations, explain in your own words why sound requires vibration.

4. How does the water in the glass help you observe the vibration when rubbing the rim?
