

Tuning Fork Waves

Materials

- Tuning forks in various sizes
- Rubber striker for tuning forks
- 2 large cups (one for each pair)
- Water

Procedures

- 1) Instruct the children to strike the prongs of the large tuning fork with the rubber striker.
- 2) Ask them to observe the loudness of the sound and how long before it fades away.
- 3) Ask them “what was the relative loudness of the tuning fork? Was it loud or could you barely hear it?”
- 4) Ask the children to strike the tuning fork again. This time hold the rod end of the tuning fork firmly against a tabletop or counter. Observe the loudness of the sound. Is it the same as the sound they created in step 1? Louder? Softer? How long before the sound faded away?
- 5) Repeat steps #1 and #2 so each child has a chance to use a tuning fork.
- 6) Now – strike the largest tuning fork with the rubber striker. Immediately place the tuning fork into the small plastic bowl filled with water. What happens? Repeat this procedure so each child has a chance to strike the largest tuning fork.
- 7) Repeat the above procedure using the smallest tuning fork and ask the children to observe what happens. Which tuning fork spilled the most water? Why?

Explanation

Sound is made by something that moves or vibrates. When striking the tuning fork with the rubber hammer, you should hear a sound. This is because the striking action created vibrations. Sound travels in a pattern. Striking the tuning fork and touching the surface of the water creates ripples on the water. In some cases, the water “jumps” out of the small bowl. These are sound waves. Sound travels through air as waves before it reaches our ears.

Adapted from: Sound Activity Stations: A Physical Science Activity. University of Virginia Physics Department.

<http://galileo.phys.virginia.edu/Education/outreach/8thgradersol/SoundStationsST.htm>.