Louder

**Purpose**
To see how to make sound louder.

**Materials**
- Metal fork
- Metal spoon
- 10-ounce (300-mL) plastic cup

**Procedure**
1. Firmly grasp the lower end of the fork’s handle between the thumb and index finger of one hand and hold the fork in mid-air.
2. Strike the prongs of the fork three or more times with the outside bowl of the spoon. Make note of the sound produced.
3. Turn the cup upside down on a table.
4. Repeat steps 1 and 2 standing the handle end of the fork on the bottom of the upturned cup.

**Results**
Standing the fork on the cup makes the sound louder.

**Why?** Generally, the larger the vibrating surface, the louder the sound. Because the cup is hollow, its sides can easily vibrate. When the vibrating fork is standing on the cup, the cup also vibrates, creating a louder sound. The cup in this activity acts like the sounding board (a part of a musical instrument that increases the loudness and quality of sound) of some musical instruments, such as a guitar. The sounding board of a guitar is its hollow part, which is usually made of thin wood that easily vibrates.