

Experiment With Sound Waves

Every time a sound is produced it emits a sound wave. You can picture the shape of sound as a wave on the ocean: the sound starts at one end of the wave and spreads out. By the time the wave reaches the shore you can hear it.

For a home example of this phenomenon, take a rubber band and spread it tightly between your fingers. Now strum the rubber band. The movement of the band creates vibration, or sound waves. This experiment will demonstrate how sound travels, using nothing more than a spoon and a string.

What You Need:

- Metal spoon
- 30 inches of kite string (40 inches for an adult)

What You Do:

1. Tie the handle of the spoon at the midpoint of the string.
2. Wrap the ends of the string around your index fingers (pointer fingers).
3. Place your fingers in your ears.
4. Lean over so that spoon hangs freely and swing the spoon so it taps against a door.
5. Hit the door again, this time harder.

What did you hear? Was it a soft sound like a bell, and then a louder sound like a church bell? The sound came because the spoon vibrated, causing sound waves to travel up the string and into your ears. The loudness or quietness of the sound depends on the amplitude (height of the wave).

