

Sound Science: Theater Programming

Topics covered: Sound is a vibration that travels away from a source as waves. Explore the requirements needed to create sound: an object to make the sound, a medium through which it can travel and a receiver to interpret the sound. Use a slinky to demonstrate types of waves. Listen closely to hear soundwaves move through media like air and water. Learn how our ears are adapted to interpret sound, then practice playing palm pipes to experiment with pitch and volume.

Ages: 3-5

Purchase Details: Theater Programming - \$5 per student

Programs can be reserved by phone: 901-636-2362

Wednesday - Saturday, 10:30 am - 5:30 pm

Objectives:

1. Demonstrate how sound moves as a vibration and a wave.
2. Identify the three requirements needed to create sound.
3. Create sounds of different volumes and pitches.

Vocabulary:

sound	medium
vibration	inner ear
larynx	ear drum
nasal bone	cochlea
particles	pitch
energy	volume
wave	hypothesis

Fun Facts:

- The instrument with the highest pitch is the piccolo. It is exactly half the size of the flute and plays one octave higher.
- The instrument that plays the lowest pitch is the subcontrabass tuba. It produces just a few notes, requires two people to play and is very rare.
- The explosion of Indonesia's Mt. Tambora in 1815 was the largest volcanic eruption ever recorded. It was heard 1,600 miles away and likely produced the loudest sounds ever heard.

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Web Resources:

What is Sound/Sound Waves/DK Find Out:

<https://www.dkfindout.com/us/science/sound>

PBS Learning Media--Understanding Vibration and Pitch

<https://tn.pbslearningmedia.org/resource/phy03.sci.phys.howmove.collage/understanding-vibration-and-pitch>

Kids Health-How do our ears work?

<https://kidshealth.org/en/kids/ears.html>

Museum Resources:

- **For Your Classroom:** Reserve the Pink Palace Museum Passport Memorable Memphians: Arts-- W. C. Handy, Burton Callicott and STAX. Listen to recordings of Memphis musicians and experiment with palm pipes.
- **In the galleries:** Visit the Cultural History Exhibits and look for ways music has long been a part of Memphis culture. In the History of Memphis, 1800-1900 Gallery, find a melodeon in the "Victorian Parlor". Identify three sound instruments in the "The Music Room: 1890-1900".

Where: Pink Palace Discovery Lab or Theater (for 33-100 students) or Classroom (for 15-32 students)

When: August-May Tuesday-Friday at 9:30 & 11 am 45-60 Minutes

- **Standards:**
 - (Grade Level) 3-5
- **Tennessee: (Science)**
 - GRADE 3:
 - GRADE 4: 4.PS4
 - GRADE 5:
- **Mississippi: (Science)**
 - GRADE 3:
 - GRADE 4: P.4.6C
 - GRADE 5:
- **Arkansas: (Science)**
 - GRADE 3:
 - GRADE 4: 4-PS3
 - GRADE 5:
- **Catholic Diocese: (Science)**
 - GRADE 3:
 - GRADE 4:
 - GRADE 5: