

# CONNECTIONS TO SCIENCE GUIDES

GEORGIA YOUTH SCIENCE & TECHNOLOGY CENTERS, INC.

## THE WHATIFS BY: EMILY KILGORE

CAN'T FIND THE BOOK?  
READ-ALOUDS ARE AVAILABLE  
ON YOUTUBE.



### ASK

- Do you ever have Whatifs? What are your Whatifs?
- How do pianos make sound?
- How is sound made?
- How does sound get from an object to your ears?
- Have you ever thought about being an audiologist?

### EXPLORE

#### SOUND WAVES: HOW DOES SOUND TRAVEL?

##### Materials:

- metal spoon
- string
- scissors

##### Directions:

- Tie a loop around the end of the spoon at the middle of the string.
- Pull tightly so that the spoon hangs in the center of the string.
- Take each string and wrap them around your pointer finger on each hand.
- Push the string against each ear (not into the ear).
- While holding the string against your ears, lean over and swing the spoon against the table.
- Observe what happens.
- Repeat with different types of spoons and string.
- As you are experimenting, think about:
  - How is sound made?
  - How does sound get from an object to your ears?

##### Fun Facts:

- Sound travels a lot slower than light, at only 770 miles per hour. That's why you often hear things after you've seen them - like lightning before you hear the thunder!
- The scientific study of sound is called acoustics.



## EXPLAIN

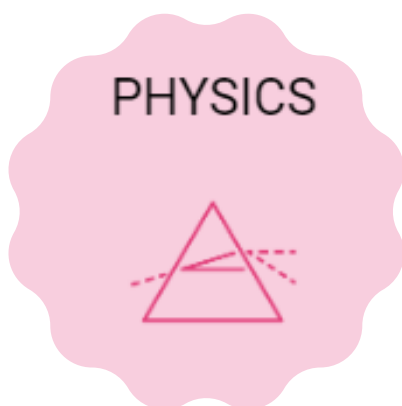
### SOUND

Sound is energy made from vibrations. When an object vibrates, it bumps into the surrounding air molecules causing them to vibrate as well. These waves hit our outer ear, our eardrums vibrate, and send the sound waves to the inner bones of our middle ear. This creates an electrical signal that our brain interprets as sound.



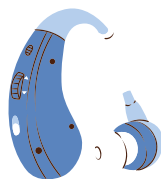
## EXTEND

### PHET WAVES INTRO



Make waves with water, sound, and light and see how they are related.

[www.phet.colorado.edu](http://www.phet.colorado.edu)



## STEM CAREER

### AUDIOLOGIST

An audiologist is a healthcare professional who evaluates, diagnoses, treats, and manages hearing loss and balance disorders. They help patients of all ages with protective hearing devices, hearing aids, and assistive listening devices. If you are interested in helping people with their hearing, being an audiologist might be for you!



## BACKGROUND

The Georgia Youth Science and Technology Centers, Inc. provides quality programs for teachers of STEM subjects that improve the teaching and learning process at the kindergarten through eighth grade levels. We present programs that change students' perceptions and inspire an appreciation for science, technology, engineering, and mathematics subjects.

## ABOUT US

**Amanda Buice**

GYSTC, Inc.

Executive Director

[abuice6@kennesaw.edu](mailto:abuice6@kennesaw.edu)

**Jenna Henkel**

GYSTC, Inc.

STEM Program Manager

[jmp8603@kennesaw.edu](mailto:jmp8603@kennesaw.edu)



Scan QR code or Visit:

for more guides