

Sound on the Move

Trace vibrations, energy, and sound through different materials.

5.5 “The student will investigate and understand that sound can be produced and transmitted. Key ideas include sound is produced when an object or substance vibrates; sound is the transfer of energy; different media transmit sound differently...”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline details that tell what vibrates or carries vibration, circle each word that names a medium, and number the three sound-wave applications in the last paragraph. These marks will help you trace how sound moves and is used.

A Concert of Vibrations

- ① During a school concert, Maya plucks a guitar string. The string moves back and forth very quickly, or vibrates. Its vibration pushes nearby air particles. Those particles bump into other air particles, carrying energy outward as a sound wave. When the wave reaches Maya's ear, parts of her ear vibrate, and her brain recognizes the guitar sound.
- ② Sound can travel through gases, liquids, and solids, but it does not travel equally through every medium. At the concert, air carries the guitar sound to nearby listeners. A musician can also hear a tuning fork through a wooden table by touching an ear to the table. In solids, tightly packed particles often pass vibrations along more quickly than particles in gases.
- ③ People use sound waves for more than music and talking. Doctors use ultrasound, which has vibrations too high for people to hear, to make images inside the body. Ships send sound waves through water and measure returning echoes to learn the depth below them. Emergency vehicles use sirens so other drivers can hear a warning and make space.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What vibrates first when Maya makes the guitar sound, and what happens next?

2 Name two media that can transmit sound. According to the passage, which medium often passes vibrations along more quickly than gases?

3 How does the guitar example show that sound is a transfer of energy?

4 Choose two sound-wave applications from the last paragraph. What does each one help people do?

3 YOUR TURN _____ Your own words

Write exactly three sentences about a sound situation or device not named in the passage. Tell what vibrates, name the medium that carries the sound energy, and explain how the sound helps someone.

PART 1 • READ AND MARK

Underline details that tell what vibrates or carries vibration, circle each word that names a medium, and number the three sound-wave applications in the last paragraph. These marks will help you trace how sound moves and is used. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What vibrates first when Maya makes the guitar sound, and what happens next?	The guitar string vibrates first. It pushes nearby air particles, which carry energy outward as a sound wave.
2	Name two media that can transmit sound. According to the passage, which medium often passes vibrations along more quickly than gases?	Any two: gases, liquids, or solids. Solids often pass vibrations along more quickly than gases.
3	How does the guitar example show that sound is a transfer of energy?	The vibrating string pushes air particles, and the particles bump into other particles, carrying energy outward as a sound wave.
4	Choose two sound-wave applications from the last paragraph. What does each one help people do?	Doctors use ultrasound to make images inside the body. Ships use returning echoes to learn water depth. Emergency vehicles use sirens to warn drivers.

PART 3 • YOUR TURN (SAMPLE ANSWER)

A doorbell speaker vibrates when electricity makes it move. The vibrating speaker transfers sound energy through air to people in the house. They hear the sound and know someone is at the door.

Accept accurate descriptions of vibrations transferring sound energy through a gas, liquid, or solid. For the open response, accept any original situation that correctly includes a vibrating source, a medium, and a useful result.