

Vibrations Make Sound

Read how moving objects and materials create sounds.

5.5.a "sound is produced when an object or substance vibrates;"

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each object or substance that vibrates. Circle each sentence that explains how a vibration leads to sound.

Where Sounds Begin

- ① At a school concert, Maya plucks one string on a guitar. The string moves back and forth very quickly. This repeated back-and-forth motion is a vibration. As the string vibrates, it pushes and pulls nearby air. The moving air carries sound across the room. When the string stops vibrating, the guitar sound fades away too.
- ② Sound can begin in many materials. A drummer hits a drumhead, and the tight drumhead vibrates. Its motion makes the air near it vibrate too. A singer's vocal cords vibrate as air from the lungs passes through them. The vibrations from the cords make sound that travels through the air to listeners across the room.
- ③ You can feel some vibrations even when you cannot see them. Place two fingers lightly on your throat and hum. Your vocal cords vibrate inside your throat, and you may feel a buzzing motion. A loudspeaker also makes sound because its cone vibrates, pushing and pulling air. Sound is produced by the vibrating object or substance, not by the air alone.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What motion does the guitar string make when Maya plucks it?

2 How does a vibrating drumhead help produce sound?

3 Name the vibrating source of sound for a guitar and for a singer.

4 Why does the passage say that air alone does not produce sound?

3 YOUR TURN _____ Your own words

Choose a safe everyday object that can make sound. Write two sentences that name the object, tell how you would make it vibrate, and explain how its vibration would produce sound.

PART 1 • READ AND MARK

Underline each object or substance that vibrates. Circle each sentence that explains how a vibration leads to sound. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What motion does the guitar string make when Maya plucks it?	It moves back and forth very quickly.
2	How does a vibrating drumhead help produce sound?	The drumhead vibrates, and its motion makes the nearby air vibrate.
3	Name the vibrating source of sound for a guitar and for a singer.	A guitar's string vibrates. A singer's vocal cords vibrate.
4	Why does the passage say that air alone does not produce sound?	Sound is produced by a vibrating object or substance. The vibration can push and pull the air, which carries the sound.

PART 3 • YOUR TURN (SAMPLE ANSWER)

I would pluck a rubber band stretched around a box. The rubber band would vibrate and make the air move, producing sound.

Accept answers that identify a real object or material, describe a way it could vibrate, and connect its vibration to sound. Students may use different safe examples than the sample.