

Sound Moves Matter

Read how vibrations make sounds and start new vibrations.

2.8.A “demonstrate and explain that sound is made by vibrating matter and that vibrations can be caused by a variety of means, including sound;”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline words that name matter that vibrates. Circle words that tell what starts each vibration, so you can track how sound is made and passed along.

Ava's Sound Test

- ① Ava taps a metal spoon against a cup. The spoon moves back and forth very fast. This tiny back-and-forth motion is called a vibration. The moving spoon makes the air near it move too. Ava hears a clear clink.
- ② Next, Ava plucks a rubber band stretched around a box. The band shakes quickly, and the box and nearby air also vibrate. Her ears receive the moving air, so she hears a twang. Sound begins when matter vibrates.
- ③ Vibrations can start in more than one way. Ava strikes a drum, plucks a band, or speaks near a paper cup. Her voice makes the air vibrate. The moving air can make the cup's thin bottom vibrate.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What moved back and forth when Ava tapped the cup?

2 How did Ava's voice make the paper cup's bottom vibrate?

3 Name two different ways the passage says a vibration can start.

3 YOUR TURN _____ Your own words

Do two teacher-supported demonstrations before drawing. First, an adult holds a flexible ruler firmly on a desk with part overhanging; gently pluck the free end. Observe its motion and sound. Next, the teacher stretches plastic wrap tightly over a sturdy bowl, secures it, and scatters a few dry rice grains on top. Holding a metal baking tray nearby **WITHOUT** touching the bowl or its support, the adult gives a gentle tap. Watch the membrane/rice before, during and after the sound. Teacher: pretest membrane tension and spacing for visible movement at a comfortable sound level; never raise volume to an uncomfortable level. Keep rice/plastic away from mouths and clean up. Draw Panel 1 showing the struck tray making sound; draw Panel 2 showing that sound reaching the membrane and moving it. Label vibrating matter and explain your actual observations; use extra paper or adult scribing if needed.



PART 1 • READ AND MARK

Underline words that name matter that vibrates. Circle words that tell what starts each vibration, so you can track how sound is made and passed along. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What moved back and forth when Ava tapped the cup?	The metal spoon moved back and forth.
2	How did Ava's voice make the paper cup's bottom vibrate?	Her voice made the air vibrate. The moving air made the cup's thin bottom vibrate.
3	Name two different ways the passage says a vibration can start.	Answers may include striking a drum, plucking a band or rubber band, tapping a spoon, or speaking.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Possible observed record: Plucking made the ruler move back and forth and make sound. Panel 1: the tapped metal tray vibrates and makes sound. Panel 2: sound travels through air to the taut plastic membrane; grains move as the membrane vibrates. Draw the actual setup and report actual movement. If movement is not visible, say so; the teacher adjusts tension/spacing and repeats at a comfortable sound level before accepting the demonstration as observed.

Accept any accurate objects made of matter, as long as the first object vibrates to make sound and sound causes a different object to vibrate. Labels may use words or clear arrows. Require actual ruler and tray/membrane demonstrations and observation-based labels/explanation. The tray must not touch the bowl/support: direct contact would not isolate sound traveling through air. Pretest the model; do not supply an invented rice movement or use painful volume. Check plucking/striking as starting mechanisms and sound causing another object's vibration. Setup adapted from Discovery World, Make A Model Eardrum: <https://www.discoveryworld.org/wp-content/uploads/2022/09/Make-An-Eardrum-Wk9.pdf>.