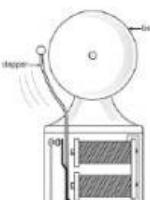


4.P.4B.2 Change in Vibration Indicator Assessment

Name: \_\_\_\_\_

1. Look at the diagram below. The bell makes a sound when it is hit by the clapper because the bell

- A. rotates.
- B. vibrates.
- C. releases heat.
- D. produces electricity.



2. One way to change the volume of a noise is to move far away from the source of the noise. Why does this work?

- A. You cannot hear what you cannot see.
- B. The closer the vibration, the softer the sound.
- C. The farther away the vibration, the softer the sound.
- D. The farther away the vibration, the louder the sound.

3. Mariah designed an investigation using a guitar. She labeled the strings from 1 to 5, making the thinnest string #1 and the thickest string #5.

Investigation of String Thickness & Pitch

Lowest Pitch	↔			Highest Pitch
String #5 (thickest)	String #4	String #3	String #2	String #1 (thinnest)

Based on her data, Mariah could conclude that string #1 \_\_\_\_\_

- A. does not vibrate.
- B. vibrates the fastest.
- C. is the longest string.
- D. has the loudest volume.

4. A musician bought new strings for a guitar. The thickness of each string influences its rate of vibration. How does the rate of vibration affect the sound of the guitar?

- A. The rate of vibration allows sound to be reflected.
- B. The rate of vibration affects the tuning of the guitar.
- C. A different rate of vibration results in a different volume.
- D. Changing the rate of vibration can vary the pitch of the sound.

**5. Which statement is true about strings or wires?**

- A. Thicker wires or strings vibrate faster than thinner ones.
- B. Thinner wires or strings vibrate faster than thicker ones.
- C. Thick and thin wires vibrate at the same speed.
- D. The thickness of the strings or wires does not impact vibrations.

**6. How does tightening the wires of a guitar to tune the instrument change its vibration and pitch?**

- A. Tighter wires vibrate faster, making the pitch higher.
- B. Tighter wires vibrate slower, making the pitch higher.
- C. Tighter wires vibrate faster, making the pitch lower.
- D. Tighter wires vibrate slower, making the pitch lower.

**7. Which statement is true about how the length of an object affects the sound?**

- A. Shorter materials vibrate slower than longer materials. This makes the pitch of the object higher.
- B. Shorter materials vibrate faster than longer materials. This makes the pitch of the object lower.
- C. Longer materials vibrate slower than shorter materials. This makes the pitch of the object lower.
- D. Longer materials vibrate faster than shorter materials. This makes the pitch of the object higher.

**8. Vibrations that cause sound can travel through \_\_\_\_\_.**

- A. solids.
- B. liquids.
- C. gases.
- D. all of these.

**9. Shaking maracas, strumming a guitar, and striking a tambourine are alike in that each produces sound waves \_\_\_\_\_**

- A. by vibrating.
- B. that travel through empty space.
- C. that travel at the same speed.
- D. that travel in air slower at high temperatures.