

MCAS Questions: Physics of Sound**Reporting Category: Physical Sciences****Forms of Energy**

Standard: 4 - Identify the basic forms of energy (light, sound, heat, electrical, and magnetic). Recognize that energy is the ability to cause motion or create change.

Sound Energy

Standard: 11 - Recognize that sound is produced by vibrating objects and requires a medium through which to travel. Relate the rate of vibration to the pitch of the sound.

1. (2013) Which of the following is an example of a form of energy?
 - A. the air in a sealed jar
 - B. the wire in a metal hanger
 - C. the water in a small puddle
 - D. the sound in a loud classroom

2. (2012) The picture below shows a drum.



What could be done to the drum head to make the drum have a higher pitch?

- A. Cover the drum head with a piece of plastic.
- B. Put a thicker drum head on the drum.

- C. Hit the drum head with more force.
 - D. Tighten the drum head.
3. (2009) A student hears the sound of a bell. Which of the following carries the sound of the bell to the student?
- A. electrical currents
 - B. magnetic signals
 - C. radio waves
 - D. vibrating air
4. (2009) Heat, light, and sound are all different forms of
- A. fuel.
 - B. energy.
 - C. matter.
 - D. electricity.
5. (2008) The pictures below show four different bells made of the same material.

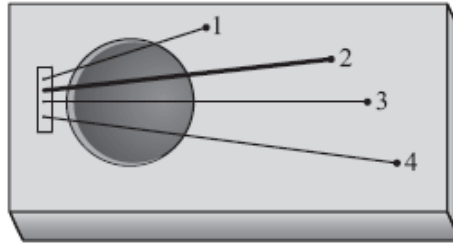


Which of the following bells should have the **lowest** pitch?

- A. bell 1
- B. bell 2

- C. bell 3
- D. bell 4

6. (2007) The picture below shows a musical instrument that Jamie made during science class. Each string on the instrument will produce a different sound when plucked.



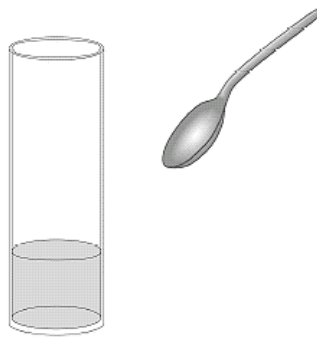
- Which of the following identifies the string that will **most likely** produce the sound with the highest pitch?
- A. string 1, because it is the shortest
 - B. string 2, because it is the thickest
 - C. string 3, because it is centered over the hole
 - D. string 4, because it is the longest
7. (2007) Which of the following forms of energy can travel by vibrating particles of air?
- A. electrical
 - B. light
 - C. magnetic
 - D. sound
8. (2005) Sound reaches our ears because sound makes air particles
- A. heat up.

- B.** cool down.
- C.** slow down.
- D.** vibrate.

9. (2003) What causes sound?

- A. sunlight
- B. vibrations
- C. x-rays
- D. pitch

10. (2003) The figure to the right shows a glass partly filled with water.



Grace tapped the glass with a metal spoon and heard a sound. Which action would raise the pitch when she taps the glass again with the metal spoon?

- A. Pour some of the water out of the glass.
- B. Put more water into the glass.
- C. Heat the water in the glass.
- D. Cool the water in the glass.

MCAS Questions: Sound
Multiple Choice Answers

1. D
2. D
3. D
4. B
5. D
6. A
7. D
8. D
9. B
10. B