Released SOL Test Questions
2002-2012
Sorted by Topic
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SOL 5.2 SOUND

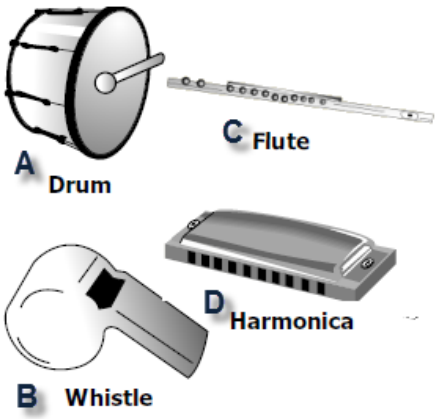
Key Concepts

a. **compression waves;**
b. **vibration, compression, wavelength, frequency, amplitude;**
c. **the ability of different media (solids, liquids, and gases) to transmit sound;**
d. **uses and applications of sound waves**

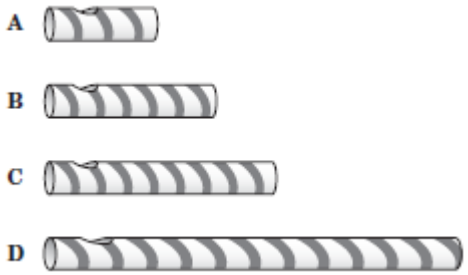
WAVES, VIBRATION, COMPRESSION, FREQUENCY, AMPLITUDE

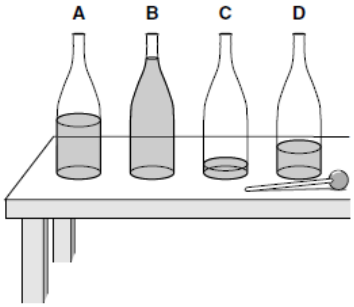
1. Sound is a type of mechanical energy that is transmitted in the form of —
(2006-18)
   a. Waves
   b. Light
   c. Heat
   d. electron

2. Which of these makes a sound with the slowest vibration?
(2010-6)



3. Blowing through a straw will produce a sound. Which straw will make the highest pitch?
(2004-33)





4. A student plans to investigate how sound changes when 4 bottles with different amounts of liquid are struck with a mallet. In which order must the bottles be placed so that the sound changes from a low pitch to a high pitch?
(2005-31)
   a. A,B,D,C
   b. B,A,D,C
   c. B,C,A,D
   d. C,D,B,A

5. A high soprano singer can break a crystal glass if the glass resonates with her voice. In order to do this, the sound the singer makes has to be —
(2005-25)
   a. speeded up before reaching the glass
   b. amplified before reaching the glass
   c. reflected off the glass
   d. able to vibrate the glass

TRASMISSION THROUGH DIFFERENT MEDIA

6. Which material will sound travel through the fastest?
(2002-27)
   a. Water
   b. Air
   c. Steel
   d. Cloth

7. Sound waves travel best through —
(2001-14)
   a. gases
   b. liquids
   c. solids
   d. vacuums

8. Which of these transmits sound the fastest?
(2010-16)
   a. Water in a pool
   b. A metal rod
   c. Air in a balloon
   d. Empty space

Speed Of Sound

Material	Speed (meters per second)
Air	331
Fresh water	1,490
Salt water	1,531
Plastic	1,800
Silver	2,680
Wood	4,000
Glass	4,540

9. According to the table, sound travels fastest through matter that —
(2006-6)
   a. can evaporate easily
   b. has no definite shape
   c. has particles that are close together
   d. has particles that move quickly

10. During a thunderstorm, you see the lightning before you hear thunder. This is because —
(2004-8)
   a. light has a greater mass than sound
   b. sound has longer wavelengths than light
   c. light travels faster than sound
   d. sound and light travel at the same speed

USES OF SOUND WAVES

11. How is the use of sound waves helpful to this whale?
(2007-2)
   a. It helps the whale locate food.
   b. It makes the water warmer.
   c. It makes it easier to obtain oxygen.
   d. It signals fish to move out of the whale's path.

12. Which technique is the boat using to find the distance from the surface of the ocean to the bottom?
(2002-28)
   a. Morse code
   b. Radio
   c. Sonar
   d. Sound tracking

13. Sonar helps people find which information about an object?
(2011-19)
   a. Color
   b. Weight
   c. Location
   d. Temperature