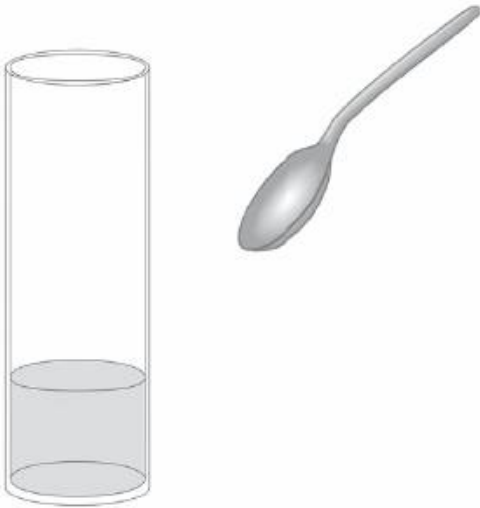


Name: _____

Date: _____

1. The figure below 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.

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2. Hilda shouts "hey" in an empty hall at the shopping mall. The sound bounces off the walls and she hears "hey" over and over again. Hilda has just made

- A. a recording.
- B. an echo.
- C. a circuit.
- D. a wavelength.

3. All sound is made by

- A. vibrations.
- B. heat energy.
- C. magnetism.
- D. reflections.

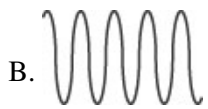
4. Use the table below to answer this question.

Animal	Hearing Range in Hertz
bat	100 – 100,000
dog	10 – 35,000
elephant	1 – 20,000
frog	100 – 2,500

The information in the table tells us that animals hear different sounds. Which animal hears the fewest sounds?

- A. bat
 - B. dog
 - C. elephant
 - D. frog
-

5. Which sound wave has the longest wavelength?



6. Two astronauts walking on the Moon are trying to communicate with each other. Which way of communicating will NOT work for them?

- A. ringing a bell
 - B. flashing a light
 - C. using a radio
 - D. waving a hand
-

7. Which of the following statements about noise is true?

- A. Listening to loud music is less harmful if you do it a lot and get used to it.
 - B. Loud music is better for your ears than other sounds that are just as loud.
 - C. Loud music can damage the inside parts of your ears.
 - D. Hearing damage caused by loud noise eventually goes away.
-

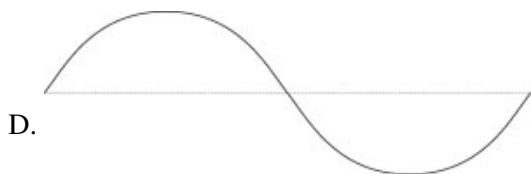
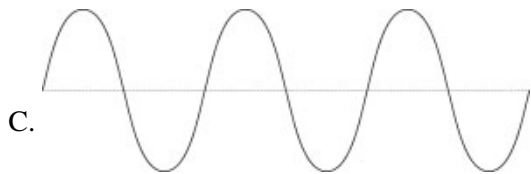
8. A scientist wanted to conduct an experiment with special equipment that is very sensitive to sound. A place where the equipment would NOT be affected by sound waves is

- A. deep under water.
 - B. high in the air.
 - C. in a solid piece of granite.
 - D. in outer space.
-

9. The sound that a person hears from a drum is produced by

- A. echoes.
 - B. reflections.
 - C. pulses.
 - D. vibrations.
-

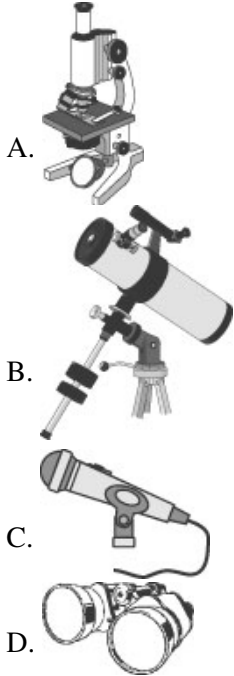
10. Which diagram of a sound wave represents the sound with the highest pitch?



11. Sound waves are produced by

- A. gravity.
 - B. heat.
 - C. vibration.
 - D. light.
-

12. Which tool is a part of a system for making sounds louder?



13. Which would make the softest sound?

- A. balloon popping
- B. hammer hitting a nail
- C. eraser hitting a chalkboard
- D. metal rod hitting a musical triangle

14. Ruth sat on the floor and played with a wooden spoon and a pan. If Ruth hit the pan with the spoon, it would sound most like a

- A. car horn.
- B. crying baby.
- C. drum.
- D. train whistle.

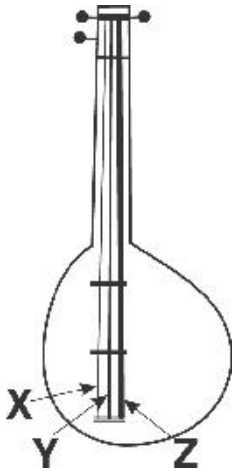
15. Which sound has a pitch that is MOST DIFFERENT from the other three sounds?

- A. fire alarm
- B. train whistle
- C. bouncing ball
- D. smoke detector

16. Jane hears a fire truck siren that does not change in pitch or loudness. The fire truck is

- A. leaving the station.
 - B. parked at the station.
 - C. passing by the station.
 - D. coming toward the station.
-

17. Use the picture below to answer this question.



The picture shows a stringed instrument with strings of three different thicknesses. Which statement is true?

- A. Strings X and Y will vibrate at the same speed.
- B. String X will vibrate the fastest and produce the highest tone.
- C. String X will vibrate the slowest and produce the lowest tone.
- D. Strings Y and Z will produce the same sound.

18. 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 —

- A. speeded up before reaching the glass
- B. amplified before reaching the glass
- C. reflected off the glass
- D. able to vibrate the glass

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19.

What determines pitch?

- A. solids
- B. liquids
- C. amplitude
- D. the rate of vibration

Answer Key

1. A) Pour some of the water out of the glass.

2. B) an echo.

3. A) vibrations.

4. D) frog

5. D) 

6. A) ringing a bell


7. C) Loud music can damage the inside parts of your ears.

8. D) in outer space.

9. D) vibrations.

10. B) 

11. C) vibration.

12. C) 

13. C) eraser hitting a chalkboard

14. C) drum.

15. C) bouncing ball

16. B) parked at the station.

17. B) String X will vibrate the fastest and produce the highest tone.

18. D) able to vibrate the glass

19. D) the rate of vibration