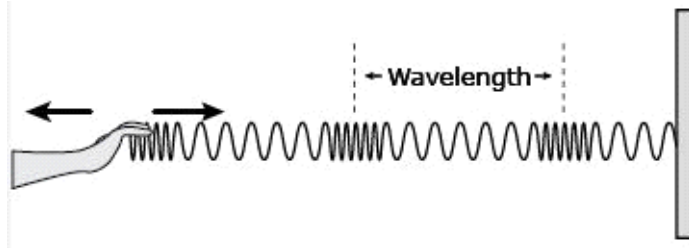


Exam not valid for Paper Pencil Test Sessions

1



A student used a coiled child's toy to show the class about sound waves. What kind of waves did he demonstrate?

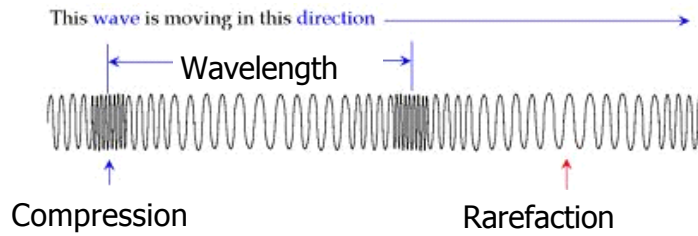
- A Compression
- B X-ray
- C Radio
- D Light

2 **Which example includes compression waves?**

- A A drummer practicing on his drumset
- B A person looking in the mirror
- C A lifeguard swimming in the ocean
- D A rainbow shining from a prism

3 Click and drag the labels to the correct parts of a compression wave.

Identify the parts of a compression wave.



4 Directions: Click on each answer you want to select. You must select all the correct answers.

Which of the following is modeling the behavior of a compression wave?



5 **When frequency increases what else goes up?**

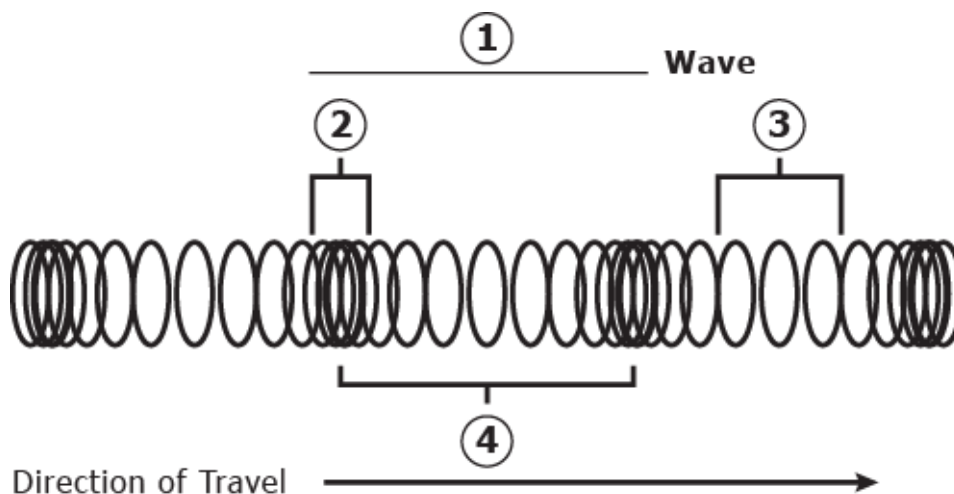
- A Wavelength
- B Sound
- C Pitch
- D Frequency

- 6 **The number of times an object vibrates in a given period of time is —**
- A sound
 - B pitch
 - C frequency
 - D wavelength

- 7 **Wavelength is best described as —**
- A the highest point of a wave
 - B the total number of complete waves in one cycle
 - C the distance from one point on a wave to the same point on the next wave
 - D the lowest point of a wave

- 8 Directions: Click on each answer you want to select. You must select all correct answers.

Which statements are true about the wave in the picture?



- Number 1 should be the word transverse.
- The frequency of the wave shown is 3.
- Number 2 is called a compression.
- Number 4 shows the amplitude of the wave.
- Number 3 shows a wavelength.

- 9 **In order for humans to make sounds, the vocal cords must produce —**
- A wavelengths
 - B vibrations
 - C pitch
 - D saliva

SOUND LEVEL	
SOUND	DECIBELS
Jet airplane	140
Loud rock band	110
Noisy factory	90
Busy traffic	70
Conversation	60
Quiet radio	40
Whisper	20
Leaves rustling	10

Based on the Sound Level chart, who needs earplugs the most to protect his or her hearing?

- A An airplane controller
- B A lawn care person
- C A radio announcer
- D A traffic director

11 The molecules of solids are close together so —

- A sound travels more slowly through solids
- B sound travels more quickly through solids
- C sound does not travel through solids
- D sound travels more quickly through liquids

12 Sound travels slowest through —

- A solids
- B gold
- C liquids
- D gases

13

SPEED OF SOUND IN AIR AT DIFFERENT TEMPERATURES	
Air Temperature (Celsius)	Speed (meters per second)
60°	366
40°	355
20°	343
0°	331

How many meters per second will sound travel at 20° Celsius?

- A 343 meters per second
- B 355 meters per second
- C 331 meters per second
- D 366 meters per second

14 During a thunderstorm, you see the lightning before you hear thunder. This is because —

- A light travels faster than sound
- B sound and light travel at the same speed
- C light has a greater mass than sound
- D sound has longer wavelengths than light

15 A student uses a depth finder when driving his boat to make sure he is not driving in shallow water. What technology does a depth finder use?

- A Pitch
- B Sonar
- C Decibels
- D Molecules

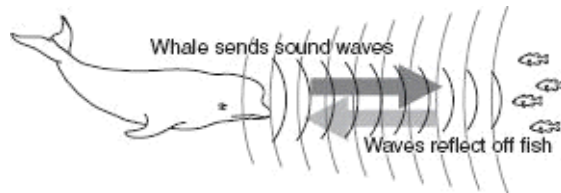
16 How do musical instruments produce sound?

- A Through air molecules
- B Through vibrations
- C By pitching sounds
- D By hiding wavelengths

17 **Which can be caused by a vibrating tuning fork?**

- A A loss of hearing
- B Death of insects
- C Ripples in water
- D A power outage

18



How is the use of sound waves helpful to this whale?

- A It signals fish to move out of the whale's path.
- B It makes the water warmer.
- C It helps the whale locate food.
- D It makes it easier to obtain oxygen.

19 **SONAR uses —**

- A reflected sound
- B high-pitched sound
- C refraction
- D low sound

20 **What is transferred when vibrations are transmitted from air molecule to air molecule?**

- A Volume
- B Pitch
- C Energy
- D Weight