

Sound Waves

⚠ This is a preview of the published version of the quiz

Started: Jul 12 at 1:12am

Quiz Instructions

Lesson 3

Watch the videos and answer the questions.

Video Lessons:

[What is Sound - Definition and Factors Affecting the Speed of Sound - Video Lesson Transcript Studycom.mp4](#)

[Pitch and Volume in Sound Waves - Video Lesson Transcript Studycom.mp4](#)

Question 1

1 pts

Sound waves are longitudinal waves.

- True
- False

Question 2

1 pts

Longitudinal waves vibrate in a pattern transverse to the direction in which the wave moves.

- True
- False

Question 3

1 pts

When tracking a longitudinal wave the areas in which the medium is less dense are called rarefactions.

- True
- False

Question 4

1 pts

When tracking a longitudinal wave the areas in a medium that are more dense are called compressions.

- True
- False

Question 5

1 pts

Air molecules vibrate perpendicular to the direction in which a sound wave travels.

- True

False

Question 6

1 pts

A medium is the substance that transfers a wave from one place to another.

True

False

Question 7

1 pts

Sound can only travel through air.

True

False

Question 8

1 pts

What can sound travel through?

Choose all that apply.

Gases

Liquids

Vacuum (no medium)

Plasmas

Solids

Question 9**1 pts**

The interaction between particles in the medium cause the sound wave to travel through the medium.

- True
- False

Question 10**1 pts**

Sound waves do not require a medium in which to travel from one place to another.

- True
- False

Question 11**1 pts**

The speed at which sound travels depends upon the strength of the interactions between particles in the medium.

- True
- False

Question 12**1 pts**

Sound travels slower in a medium with particles that have strong particle interactions compared to mediums that have weak particle interactions.

- True
- False

Question 13

1 pts

Sound travels faster in liquids than gases.

- True
- False

Question 14

1 pts

Sounds travel faster in solids than liquids.

- True
- False

Question 15

1 pts

As temperature increases the speed of sound within a medium decreases.

- True
- False

Question 16**1 pts**

A wave is a disturbance traveling through a medium.

True

False

Question 17**1 pts**

Wave Speed = Wave Length x Frequency

True

False

Question 18**1 pts**

Wave Speed = (Wave Length)/(Period)

True

False

Question 19**1 pts**

A wave has wave length 6 meters. If the time required for one wavelength to pass a certain point is .1 seconds, what is the wave's speed in m/s?

Wave Speed = Wavelength / Period

Question 20

1 pts

If the frequency of a wave is 60 Hz and it has wavelength 3.6 meters, what is the speed of the wave in m/s?

Wave Speed = Wavelength x Frequency

Question 21

1 pts

A sound wave bounces off a canyon wall creating an echo. The speed of sound in air is assumed to be 340 m/s. The sound requires 2 seconds to travel from the source to the wall and back again. What is the distance in meters of the canyon wall from the sound wave source?

Distance = Speed x Time

Question 22

1 pts

Intensity is the amount of energy carried over a certain area in a certain amount of time.

True

False

Question 23

1 pts

The amount of oscillation distance of particles in a medium depends upon the energy of a wave.

True

False

Question 24

1 pts

Volume is the perception of loudness based on the intensity of a sound wave.

True

False

Question 25

1 pts

The higher the intensity of a sound the lower the volume of that sound.

True

False

Question 26

1 pts

The volume of a sound is INVERSELY proportional to its amplitude.

- True
- False

Question 27

1 pts

Hertz can indicate the number of wave cycles occurring per hour.

- True
- False

Question 28

1 pts

Pitch is the human perception of frequency.

- True
- False

Question 29

1 pts

High pitched notes have a low frequency.

- True
- False

Question 30**1 pts**

The acoustic range of sound for humans is between 20 Hz and 20,000 Hz.

- True
- False

Question 31**1 pts**

Infrasound refers to sound waves with a frequency greater than 20,000 Hz.

- True
- False

Question 32**1 pts**

Whales and elephants can communicate with sound frequencies not perceived by humans.

- True
- False

Question 33**1 pts**

Amplitude is an indication of how much energy a sound wave carries.

- True

False

Question 34

1 pts

Changes in the frequency of sound waves can be perceived as changes in pitch for humans listening to sound waves within the acoustic range.

True

False

Question 35

1 pts

Pitch and volume are a result of human perception of the frequency and intensity of sound waves.

True

False

Not saved

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