



VIDYA BHARATI SCHOOL
OLYMPIAD WORKSHEET: February 2017
GRADE:IX
SUBJECT:SCIENCE

1 When a wave travels through a medium _____.

1. particles are transferred from one place to another
2. energy is transferred in a periodic manner
3. energy is transferred at a constant speed
4. none of the above statements is applicable

2 The minimum distance between the source and the reflector, so that an echo is heard is approximately equal to _____.

1. 10 m
2. 17 m
3. 34 m
4. 50 m

3 Bats detect the obstacles in their path by receiving the reflected _____.

1. infrasonic waves
2. radio waves
3. electro-magnetic waves
4. ultrasonic waves

4 When sound travels through air, the air particles _____.

1. vibrate along the direction of wave propagation
2. vibrate but not in any fixed direction
3. vibrate perpendicular to the direction of wave propagation
4. do not vibrate

5 The relation between wave velocity 'v', frequency 'f', and wavelength 'l' is _____.

1. $v = \frac{f}{\lambda}$
2. $v = f \lambda$
3. $v = \frac{\lambda}{f}$
4. $v = \frac{1}{f \lambda}$

6 The frequency of a wave travelling at a speed of 500 ms^{-1} is 25 Hz. Its time period will be _____.

1. 20 s
2. 0.05 s
3. 25 s
4. 0.04 s

7 The amplitude of a wave is _____.

1. the distance the wave moves in one second
2. the distance the wave moves in one time period of the wave
3. the maximum distance moved by the medium particles on either side of the mean position
4. the distance equal to one wave length

8 Which of the following is not a characteristic of a musical sound?

1. Pitch
2. Wavelength
3. Quality
4. Loudness

9 Sound waves do not travel through

1. solids
2. liquids
3. gases
4. vacuum

10 The physical quantity, which oscillates in most waves, is

1. mass
2. energy
3. amplitude
4. wavelength

11 Sound waves are

1. longitudinal
2. transverse
3. partly longitudinal and partly transverse
4. sometimes longitudinal and sometimes transverse

12 The frequency which is not audible to the human ear is

1. 50 Hz
2. 500 Hz
3. 5000 Hz
4. 50000 Hz

13 The speed of sound in medium depends upon

1. amplitude
2. frequency
3. wavelength
4. properties of the medium

14 Which of the following will remain unchanged when a sound wave travels in air or in water?

1. Amplitude
2. Wavelength
3. Frequency
4. Speed

15 A sound source sends waves of 400 Hz. It produces waves of wavelength 2.5 m. The velocity of sound waves is

1. 100 m/s
2. 1000 m/s
3. 10000 m/s
4. 3000 km/s

16 The time period of a vibrating body is 0.05 s. The frequency of waves it emits is

1. 5 Hz
2. 20 Hz
3. 200 Hz
4. 2 Hz

17 A source of frequency of 500 Hz emits waves of wavelength 0.4 m, how long does the waves take to travel 600 m?

1. 3 s
2. 6 s
3. 9 s
4. 12 s

18 Sound and light waves both

1. have similar wavelength
2. obey the laws of reflection
3. travel as longitudinal waves
4. travel through vacuum

19 The method of detecting the presence, position and direction of motion of distant objects by reflecting a beam of sound waves is known as _____.

1. RADAR
2. SONAR
3. MIR
4. CRO

20 The technique used by bats to find their way or to locate food is _____.

1. SONAR
2. RADAR
3. Echolocation
4. Flapping

*For more practice material please click: www.brilliant.org; www.sofolympiadtrainer.com; www.olympiadhelper.com