

## Wave, Light and Sound Review Sheet

1. Electromagnetic waves vary in what?
2. Describe sonar and how it works.
3. Is light a wave or particle?
4. Draw a transverse wave and label the crest, trough, wavelength, wave height and amplitude.
5. When you surf on a wave, you are riding what part of the wave and what type of wave?
6. What is the full range of electromagnetic radiation?
7. Draw a wave with a frequency of two.
8. What type of wave is light?
9. What type of wave is sound?
10. Describe the Doppler Effect.
11. What is the movement of a longitudinal wave?
12. What is the movement of a transverse wave?
13. Draw representations of transverse and longitudinal waves.
14. How would you determine the amplitude of a wave?
15. As the intensity and amplitude of a wave increases, so does the \_\_\_\_\_.
16. Describe diffraction and draw two examples of it.
17. Which medium is best for sound and which medium is best for light?
18. Why do you see lightning before thunder in a thunderstorm?
19. The visible light spectrum ranges between what two waves/rays on the electromagnetic spectrum.
20. Draw a representation of the E-M spectrum and label the different types of waves. Label where the longest wavelength is and where the shortest wavelength is. Also label the frequency on the E-M spectrum.
21. A wave has a wavelength of 20 mm and a frequency of 5.0 Hz. What is its speed?
22. Describe refraction and give an example of how it works.
23. What is the formula for wave speed in words, symbols and in a triangle?
24. A student is listening to the radio and realizes that the volume is too low. When she turns up the volume, which part of the sound wave is she changing?
25. Describe constructive and destructive interference.
26. Draw a wave that is soft and low-pitched.
27. Draw a wave that is soft and high-pitched.
28. Draw a wave that is loud and low-pitched.
29. Draw a wave that is loud and high-pitched.
30. A wave has a wavelength of 3 meters and a frequency of 2 Hz. What is the speed of the wave?
31. A transverse wave is traveling with a speed of 50 m/s and has a wavelength of 10 meters. What is the frequency of the wave?
32. A wave has a speed of 8 m/s and a frequency of 4 Hz. What is the wavelength of the wave?
33. Draw a wave with a frequency of 3.5 Hz.