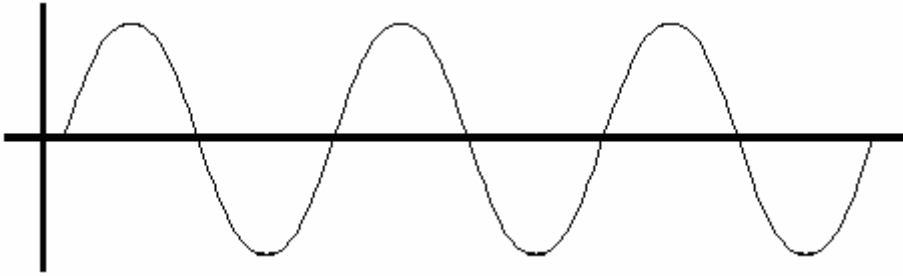


Name _____
Period _____ Loc _____

Waves Worksheet

1. What is the top of a wave called?
2. What is the bottom of a wave called?
3. What is frequency?
4. If a wave is traveling at 60 cm/second and has a wavelength of 15 cm, what is the frequency?
5. What does amplitude measure?
6. On the diagram below, indicate the distance that represents the wavelength of the wave and indicate the distance that represents the amplitude.



7. How many complete waves are there in the diagram above? Is it transverse or longitudinal?
8. What is the difference between a transverse wave and a longitudinal wave?
9. Are sound waves transverse waves or longitudinal waves? Why?
10. Why can't you calculate the frequency of the wave in the diagram? What information is missing?
11. What is the wavelength of a sound wave with a frequency of 50 Hz? (Speed of sound is 342 m/s)
12. A sound wave in a steel rail has a frequency of 620 Hz and a wavelength of 10.5 m. What is the speed of sound in steel?
13. Determine the frequency of a microwave 6.0 cm in length. (A microwave is an electromagnetic wave. It travels through space at a speed of 3.0×10^8 m/s)
14. What is the period of the microwave in problem 13?

Waves & Electromagnetic Spectrum Worksheet

Directions: Use the word bank to answer the following questions. **Each word will be used only once.**

| | | | |
|---------------|--------------|-----------------|----------|
| Crest | Frequency | Mechanical | Infrared |
| Trough | Transverse | Radio | Gamma |
| Wavelength | Longitudinal | Ultraviolet | X-Rays |
| Visible Light | Amplitude | Electromagnetic | |

1. _____ waves are used to penetrate solids and are used in doctor's offices and as airports.
2. _____ is the distance between one point of a wave to the same point in the next wave.
3. _____ is the number of waves per unit of time.
4. _____ waves occur when the motion of the medium is parallel to the direction of the wave.
5. _____ waves have a color spectrum known as ROYGBIV.
6. _____ waves disturb matter.
7. The _____ is the top of a wave.
8. The _____ is the bottom of a wave.
9. _____ is the maximum distance that matter is displaced from the resting position.
10. _____ waves are produced by stars and galaxies.
11. _____ waves occur when the motion of the medium is at right angles (perpendicular) to the direction of the wave.
12. _____ waves are often used in heat lamps.
13. _____ waves are utilized by insects to locate nectar.
14. _____ waves are transverse waves that disturb electromagnetic fields.
15. _____ waves have the shortest wavelength and the highest frequency.