Waves

amplitude	electromagnetic	radio waves	X rays
compression	light	sound	
conductor	matter	wavelength	

Fill in the blanks.

Energy often moves in waves and can be measured in different ways. The _____ of a wave is the distance between the top of one crest and the top of the next. The _____ of a wave is the distance between the midpoint and the crest or trough. A(n) _____ wave is produced by the vibration of an object, while an electromagnetic wave carries energy from the Sun to Earth. Sound waves are _____ waves that move by expanding and contracting matter. Therefore, sound waves can only travel in _____ . Sound waves will travel faster in a good _____ , such as steel, than in a poor one, such as air. A(n) _____ wave does not need matter to carry it. The visible part of the electromagnetic spectrum is composed of _____ waves. The electromagnetic spectrum also includes lower-frequency _____ and higher-frequency _____ . Electromagnetic waves such as light also carry energy.

How do sound waves travel?

11. Sound waves are _____ waves that move by compressing and expanding matter.

12. In sound waves the molecules of matter in the wave move back and forth in the same _____ as the wave.

13. Matter conducts sound waves _____ from the vibrating object that produces them.

14. Sound can travel through solids, liquids, and gases, but air is a poor _____ of sound.

What are electromagnetic waves?

15. An electromagnetic wave _____ back and forth across the direction in which the wave travels.

16. Electromagnetic waves do not need _____ to carry them.

17. Radio waves and microwaves have lower frequencies than _____ , which we feel as heat.

18. The higher-frequency waves include visible light and _____ .

Summarize the Main Idea

19. What is a wave, and what are the three ways in which waves can be measured?

_____

_____

_____

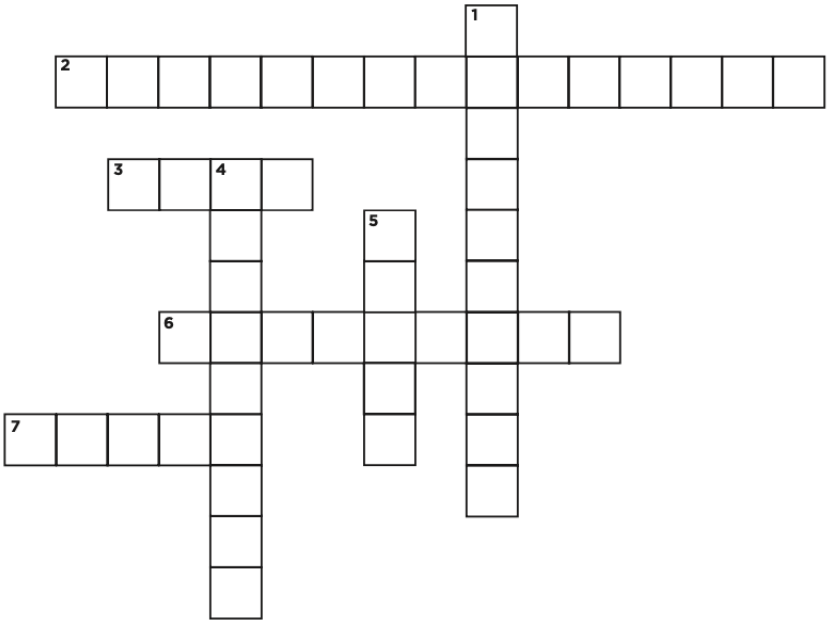
_____

_____

Waves

electromagnetic	light	vibration	wavelength
frequency	sound	wave	

Use the clues to fill in the crossword puzzle.



ACROSS

2. type of wave made up of alternating electric and magnetic fields

3. a disturbance that carries energy from one place to another

6. number of vibrations a wave makes in a given period of time

7. the visible part of the electromagnetic spectrum

DOWN

1. the distance from the bottom of one trough in a wave to the bottom of the next

4. the back-and-forth or up-and-down motion of a wave

5. type of wave produced by the vibration of an object