

CHAPTER 3 | ELECTROMAGNETIC WAVES

3 | Vocabulary

electromagnetic wave	ultraviolet light	transmission
radiation	x-rays	absorption
electromagnetic spectrum	gamma rays	scattering
radio waves	incandescence	polarization
microwaves	luminescence	prism
visible light	bioluminescence	primary colors
infrared light	fluorescence	primary pigments

A. WHO AM I?

On the line, write the vocabulary word that matches the clue.

- I'm the part of the EM spectrum that human eyes can see.

- I'm the three colors of light that can be mixed to produce all possible colors.

- I have the highest frequencies and energies of any EM waves.

- I have the longest wavelengths, the lowest frequencies, and the lowest energies.

- I'm the passage of an EM wave through a medium.

- I'm a disturbance that transfers energy through a field.

- I'm the type of EM wave most often associated with heat.

- I'm the spreading out of light rays in all directions as a result of reflection and absorption by particles.

- I pass easily through the soft tissues of the body but am usually filtered out by bone.

- I'm colored materials that can be mixed to produce the entire color spectrum.

- I'm the transfer of energy in the form of EM waves.

Name _____

Period _____

Date _____

12. I'm the production of light by living organisms.

13. I'm a tool that uses refraction to separate the wavelengths that make up white light.

14. I'm the EM waves that are used in radar and cell phones.

15. I'm a quality of light in which all of its waves vibrate in the same direction.

16. I'm the disappearance of a wave into a medium.

17. Because of my higher energies, I'm the waves that can damage tissue and burn skin.

18. I'm the production of light without high temperatures.

19. I occur when a material absorbs EM radiation of one wavelength and gives off EM radiation of a different wavelength.

20. I'm the range of frequencies that includes radio waves, microwaves, infrared light, visible light, ultraviolet light, x-rays, and gamma rays.

21. I'm the production of light from high temperatures.

B. EXAMPLES AND USES

On the line, write the vocabulary word that matches the examples and uses.

22. air traffic control, viewing weather conditions, cooking _____

23. red, blue, and green _____

24. sterilizing medical instruments, production of vitamin D _____

25. warmth from fire or radiator, lamps, toasters _____

26. diagnosing bone fractures, finding tumors _____

27. makes the sky blue _____

28. cyan, yellow, and magenta _____

29. AM, FM, and broadcast television signals _____