Chapter #4 Review Questions

**How much do you remember? Label the wave below to find out....**

 B. A.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 B.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. C. C.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

D.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 D.

1. Hertz, measures \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and is the number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ per \_\_\_\_\_\_\_\_\_\_\_\_.
2. \_\_\_\_\_\_\_\_\_\_\_\_\_ is the bending of light as it travels from one medium to another.
3. Visible light energy and all the invisible forms of radiant energy make up the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_.
4. \_\_\_\_\_\_ \_\_\_\_\_\_have the shortest wavelength and highest frequency of all the radiant waves; are useful in destroying cancerous cells.
5. \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ can result in tanning; can damage the cornea of the eye.
6. \_\_\_\_\_\_\_\_ are penetrating and energetic waves that can easily pass through skin and muscle.
7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the bending of light when it travels from one medium to another.
8. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ causes white light to split into a spectrum.
9. The color \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ has the longest wavelength.
10. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ refers to the number of cycles completed by a vibrating object in a unit of time.
11. Energy such as light that travels by radiation is often called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy.
12. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_are absorbed by water particles in food, vibrate faster, and become hot.
13. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the high part of the wave
14. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the number of cycles completed by a vibrating object in a unit of time.
15. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the low part of the wave.
16. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the distance from crest to crest, or from trough to trough.
17. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the height of the crest, or depth of the trough from rest position.
18. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ describes light bouncing off a surface.
19. The wave model of light states that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_is a wave that you can see.
20. The color \_\_\_\_\_\_\_\_\_\_\_\_\_\_ has the shortest wavelength.
21. Refraction is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of light as it passes from one medium to another.
22. In a \_\_\_\_\_\_\_\_\_\_\_\_\_ wave the matter in the medium moves back and forth perpendicular to the direction that the wave travels.
23. Which of the following does notfall under the category of radio waves?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | television channels  | c. | microwaves |
| b. | Radar | d. | X-rays |

1. The frequency of light \_\_\_\_\_\_\_\_\_\_\_\_\_\_ as the wavelength decreases.
2. When white light is shone on green paper, the green paper \_\_\_\_\_\_\_\_\_\_\_\_\_ all the colors of light except the \_\_\_\_\_\_\_. Green light is reflected, making the paper appear \_\_\_\_\_\_\_\_\_\_.
3. A light beam that is composed of blue and green light is passed through a red-colored filter. The color \_\_\_\_\_\_\_\_\_\_\_ is absorbed by the filter?
4. A guitar string vibrates 880 times in 4 s. The frequency is \_\_\_\_\_\_\_\_\_\_.
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_is the ability to apply force over a distance.
6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ have the shortest wavelength of all radio waves.
7. The visible spectrum occurs between \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

ANSWERS

A. Wavelength

B. Crest

C. Amplitude

D. Trough

1. Frequency; cycles per second
2. Refraction
3. Electromagnetic spectrum
4. Gamma rays
5. Ultraviolet rays
6. X-rays
7. Refraction
8. Prism
9. Red
10. Frequency
11. Radiant
12. Microwaves
13. Crest
14. Frequency
15. Trough
16. Wavelength
17. Amplitude
18. Reflection
19. Visible light
20. Violet
21. Bending
22. Transverse
23. d.
24. increases
25. absorbs; green
26. red
27. 220 Hz
28. Energy
29. Microwaves
30. Infrared rays; ultraviolet rays