

____ 21. Electromagnetic waves can transfer energy without a(n)
a. electric field. c. change in either a magnetic field
b. magnetic field. d. medium.

____ 22. Which electromagnetic waves have the longest wavelengths and lowest frequencies?
a. gamma rays c. radio waves
b. infrared waves d. ultraviolet rays

____ 23. Strawberries reflect light waves of which of the following wavelengths?
a. purple wavelengths c. yellow wavelengths
b. blue wavelengths d. red wavelengths

____ 24. Which type of scanner is used for airport security and is shown in the diagram?



a. gamma ray scanner c. ultraviolet ray scanner
b. X-ray scanner d. fluorescent scanner

____ 25. If light waves change speed when they pass from one medium into another, the light will be _____.
a. separated c. reflected
b. diffracted d. refracted

____ 26. Which light wave has the shortest wavelength and the highest frequency?
a. red c. violet
b. blue d. yellow

____ 27. Which action must occur first in the process of producing an electromagnetic wave?
a. the magnetic field changes c. a charged particle vibrates
b. the field around a charged particle d. the electric field changes
vibrates

____ 28. The number of cycles or waves passing a particular point every second is the _____.
a. frequency c. wavelength
b. pitch d. amplitude

____ 29. When your mother tells you to turn down the radio, she is asking you to _____.
a. lower the amplitude of the sound c. lower the frequency of the sound
wave wave
b. raise the frequency of the sound d. raise the amplitude of the sound
wave wave

____ 30. Which of the following media can sound NOT travel through?
a. empty space c. air
b. metal d. water