

The electromagnetic spectrum

Select the correct answer from the text below each question:

- Gamma rays travel faster than visible light.
true false
- All electromagnetic waves travel at the same speed in a vacuum.
true false
- The speed of light in a vacuum is...
31 ms⁻¹ 300 ms⁻¹ 300,000,000 ms⁻¹ infinite
- White light is a mixture of colours that can be split into the visible spectrum by a ...
rainbow prison migraine prism
- Which of the following has the highest frequency?
ultraviolet microwaves x-rays radiowaves
- Which of the following has the highest frequency?
visible light microwaves infrared radiowaves
- Which of the following has the longest wavelength?
gamma rays visible light ultraviolet radiowaves
- Which of the following has the shortest wavelength?
gamma rays visible light ultraviolet radiowaves
- Which of the following has the lowest frequency?
ultraviolet microwaves radiowaves x-rays
- These waves have the longest wavelength and are used to carry signals for radar, TV and radio
radiowaves ultraviolet microwaves infrared
- These rays are absorbed by bones and teeth but pass through flesh
radiowaves x-rays visible light infrared
- These waves are used to cook food (they are absorbed by water molecules in the food)
gamma rays x-rays micro-waves ultraviolet
- Our eyes are able to see waves in this part of the electromagnetic spectrum
ultraviolet radio visible infrared
- Any warm object emits this wave. Night vision cameras are able to detect this type of wave.
gamma rays visible light microwaves infrared
- These rays are emitted by the sun (and other white hot objects). Over-exposure to these rays can burn the skin and cause skin cancer.
gamma rays ultraviolet microwaves infrared

The electromagnetic spectrum

16. These rays have the shortest wavelength of all. They are emitted by some radioactive substances. They are often used in radiotherapy to kill cancer cells.
gamma rays ultraviolet infrared microwaves
17. Waves with a high frequency have a _____ wavelength
long short
18. The longer the wavelength the _____ the frequency
lower higher
19. Electromagnetic waves are _____ waves.
happy noisy transverse longitudinal
20. In _____ waves the vibrations are at right angles to the direction of the wave.
longitudinal transverse
21. In _____ waves the vibrations are in the same direction as the direction of the wave.
longitudinal transverse
22. Electromagnetic waves can travel through a vacuum.
true false
23. Sound waves are part of the electromagnetic spectrum.
true false
24. Light waves, water waves, microwaves and the 'Mexican wave' are all examples of _____ waves.
electromagnetic transverse longitudinal

25. Label the Electromagnetic Spectrum:

