

UNIT 2 TEST ELECTROMAGNETIC SPECTRUM

1. Electromagnetic waves travel...
 - A. Fastest in solids and slowest in gases
 - B. Slowest in solids and fastest in gases
 - C. Fastest in liquids and slowest in solids
 - D. Slowest in liquids and fastest in solids

2. Wavelengths become _____ as temperature _____.
 - A. Longer, Increases
 - B. Shorter, Increases
 - C. Longer Decreases
 - D. Longer, Disappears

3. As frequency _____, wavelength becomes _____.
 - A. Increases, Longer
 - B. Decreases, Longer
 - ~~C. Increases, Smaller~~
 - D. Frequency doesn't affect wavelength

4. The electromagnetic spectrum is best defined as ...
 - A. Gamma and Microwaves
 - B. Gamma, Micro, and Radio Waves
 - C. Gamma, Mico, Visible Light, and Radio Waves
 - D. The whole range of electromagnetic energy.

5. As wavelength decreases, frequency _____.
 - A. Remains the same
 - B. Decreases
 - C. Increases
 - D. Is irrelevant

6. What device best detects radio waves?
 - A. Microwaves
 - B. Cell Phones
 - C. Satellites
 - D. Antennae

7. Which type of electromagnetic radiation/waves have the shortest wavelength?
 - A. Ultraviolet
 - B. Gamma Rays
 - C. Radio Waves
 - D. Visible Light

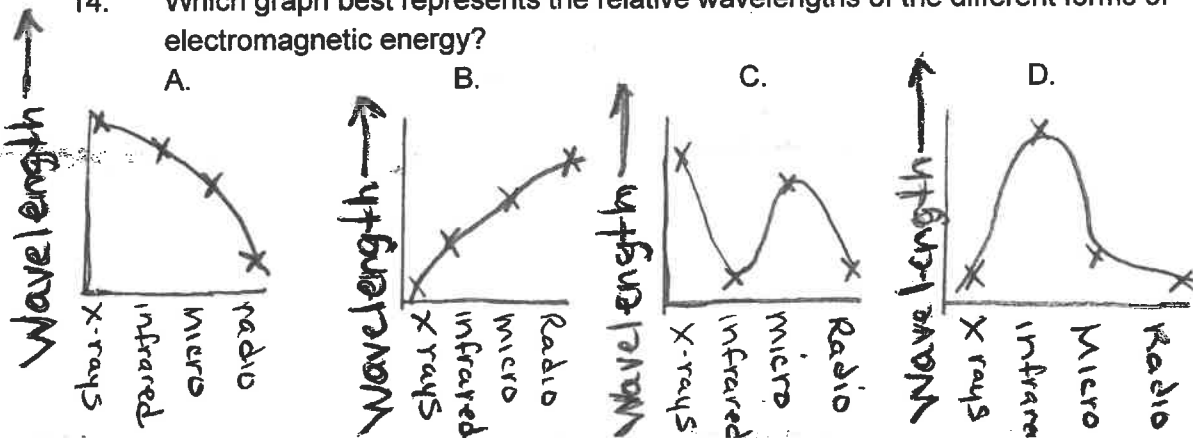
8. What electromagnetic wave do cell phones use?
- A. Radar
 - B. Microwaves
 - C. Gamma Rays
 - D. Both B and C
9. Which color of VISIBLE LIGHT has the shortest wavelength?
- A. Blue / Violet
 - B. Green
 - C. Yellow
 - D. Red
10. Satellites can identify different types of plants growing in a region using...
- A. Radio Imagery
 - B. Infrared Imagery
 - C. Visible Light Imagery
 - D. Ultraviolet Imagery

11. Which form of electromagnetic energy has the longest wavelength?
- A. Ultraviolet Waves
 - B. Radio Waves
 - C. Gamma Waves
 - D. Both B and C

12. What wavelength has enough energy to enter skin cells?
- A. Microwave
 - B. Infrared
 - C. Visible
 - D. Ultraviolet

13. High Level Exposure to these waves cause cancer.
- A. Microwaves
 - B. X-Rays
 - C. Gamma Rays
 - D. Both B & C

14. Which graph best represents the relative wavelengths of the different forms of electromagnetic energy?



15. The Diagram below shows the types of electromagnetic energy given off by the sun. The shaded part of the diagram shows the approximate amount of each type actually reaching Earth's surface. What does this graph show us?



- A. All types of electromagnetic energy reach Earth's surface
- B. Gamma rays and x-rays make up the greatest amount of electromagnetic energy reaching earth's surface
- C. Visible light makes up the greatest amount of electromagnetic energy reaching Earth's surface.
- D. Ultraviolet and infrared radiation make up the greatest amount of electromagnetic energy reaching Earth's surface.
16. In which list are the forms of EM energy arranged in order from longest to shortest?
- A. Gamma rays, x-rays, ultraviolet rays, visible light.
- B. Radio waves, infrared rays, visible light, ultraviolet rays
- C. X-rays, infrared rays, blue light, gamma rays
- D. Infrared rays, radio waves, blue light, red light
17. What is the basic difference between ultraviolet, visible, and infrared radiation?
- A. Half-life
- B. Temperature
- C. Wavelength
- D. Wave Velocity
18. Which is the major source of energy for most Earth processes?
- A. Radioactive decay within the Earth's interior
- B. Convection currents in the Earth's mantle
- C. Electromagnetic Radiation received from the Sun
- D. Earthquakes along fault zones
19. The energy radiated from the Sun consists of a
- A. narrow range of wavelengths, with ultraviolet having the greatest intensity.
- B. narrow range of wavelengths with infrared having the greatest intensity
- C. wide range of wavelengths, with visible light having the greatest intensity
- D. wide range of wavelengths, with x-ray radiation

20. Infrared, ultraviolet, and visible light are all part of the electromagnetic spectrum. The basic difference between them is their ...
- wavelength
 - speed
 - source
 - temperature
21. Which process transfers energy primarily by electromagnetic waves?
- radiation
 - conduction
 - evaporation
 - convection
22. AM radio transmits by changing the _____ of the wave and FM transmits by changing it's _____.
- frequency, wavelength
 - amplitude, frequency
 - frequency, amplitude
 - amplitude, wavelength
23. Television uses what wavelength to send electronic signals?
- gamma
 - infrared
 - visible light
 - radio
24. Telephone transmissions began as sound waves and end as _____.
- radio waves
 - microwaves
 - infrared waves
 - sound waves

25. What is the graph that best shows the relationship between the number of coils and magnetic strength?

