

# EM Spectrum

- Which type of electromagnetic energy has the longest wavelength?  
A) infrared radiation      B) radio wave radiation  
C) ultraviolet radiation      D) x-ray radiation
- Which color of the visible spectrum has the *shortest* wavelength?  
A) violet    B) blue    C) yellow    D) red
- In which list are the forms of electromagnetic energy arranged in order from longest to shortest wavelengths?  
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
- What is the basic difference between ultraviolet, visible, and infrared radiation?  
A) half-life                      B) temperature  
C) wavelength                  D) wave velocity
- When electromagnetic energy travels from air into water, the waves are bent due to the density differences between the air and water. This bending is called  
A) reflection                      B) refraction  
C) scattering                      D) absorption
- What happens to most of the sunlight that strikes a dark-colored area of the Earth's surface?  
A) It is reflected and scattered as potential energy.  
B) It is reflected and diffused as ultraviolet radiation.  
C) It is absorbed and reflected as light.  
D) It is absorbed and reradiated as heat.
- Changing the shingles on the roof of a house to a lighter color will most likely reduce the amount of solar energy that is  
A) scattered                      B) absorbed  
C) reflected                      D) refracted
- An object that is a good radiator of electromagnetic waves is also a good  
A) insulator from heat  
B) reflector of heat  
C) absorber of electromagnetic energy  
D) refractor of electromagnetic energy
- Infrared, ultraviolet, and visible light are all part of the solar spectrum. The basic difference between them is their  
A) wavelength                  B) speed  
C) source                          D) temperature
- Scientists are concerned about the decrease in ozone in the upper atmosphere primarily because ozone protects life on Earth by absorbing certain wavelengths of  
A) x-ray radiation                  B) ultraviolet radiation  
C) infrared radiation                  D) microwave radiation
- How does the amount of heat energy reflected by a smooth, dark-colored concrete surface compare with the amount of heat energy reflected by a smooth, light-colored concrete surface?  
A) The dark-colored surface will reflect less heat energy.  
B) The dark-colored surface will reflect more heat energy.  
C) The dark-colored surface will reflect the same amount of heat energy.
- Which type of land surface would probably reflect the most incoming solar radiation?  
A) light colored and smooth  
B) light colored and rough  
C) dark colored and smooth  
D) dark colored and rough
- Energy is transferred from the Sun to Earth mainly by  
A) molecular collisions      B) density currents  
C) electromagnetic waves    D) red shifts
- Which source provides the most energy for atmospheric weather changes?  
A) radiation from the Sun  
B) radioactivity from the Earth's interior  
C) heat stored in ocean water  
D) heat stored in polar ice caps
- Most insolation striking a smooth, light-colored, solid surface is  
A) refracted                      B) transmitted  
C) reflected                      D) absorbed

## Answer Key EMSpecabsorbers

1.   B
  2.   A
  3.   B
  4.   C
  5.   B
  6.   D
  7.   B
  8.   C
  9.   A
  10.  B
  11.  A
  12.  A
  13.  C
  14.  A
  15.  C
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