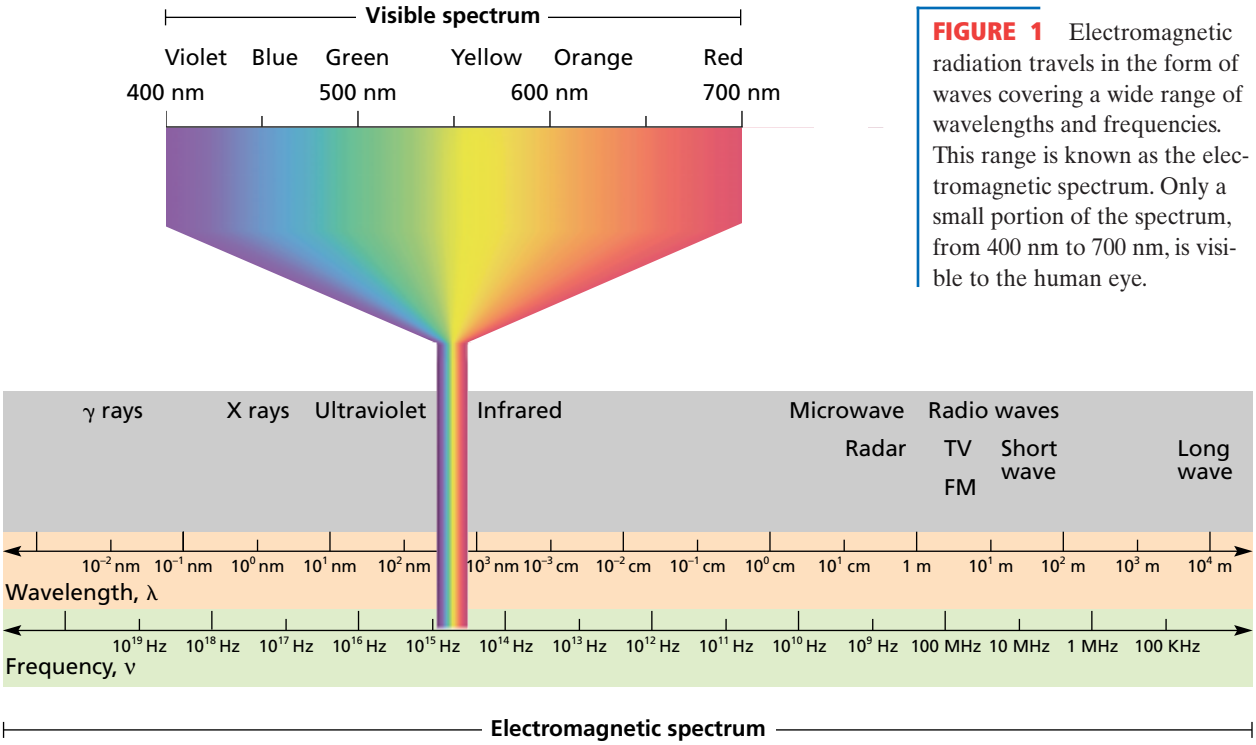

FIGURE 1 Electromagnetic radiation travels in the form of waves covering a wide range of wavelengths and frequencies. This range is known as the electromagnetic spectrum. Only a small portion of the spectrum, from 400 nm to 700 nm, is visible to the human eye.

centimeters, or nanometers, as shown in **Figure 1. Frequency** (ν) *is defined as the number of waves that pass a given point in a specific time, usually one second.* Frequency is expressed in waves/second. One wave/second is called a hertz (Hz), named for Heinrich Hertz, who was a pioneer in the study of electromagnetic radiation. **Figure 2** illustrates the properties of wavelength and frequency for a familiar kind of wave, a wave on the surface of water. The wave in **Figure 2a** has a longer wavelength and a lower frequency than the wave in **Figure 2b.**

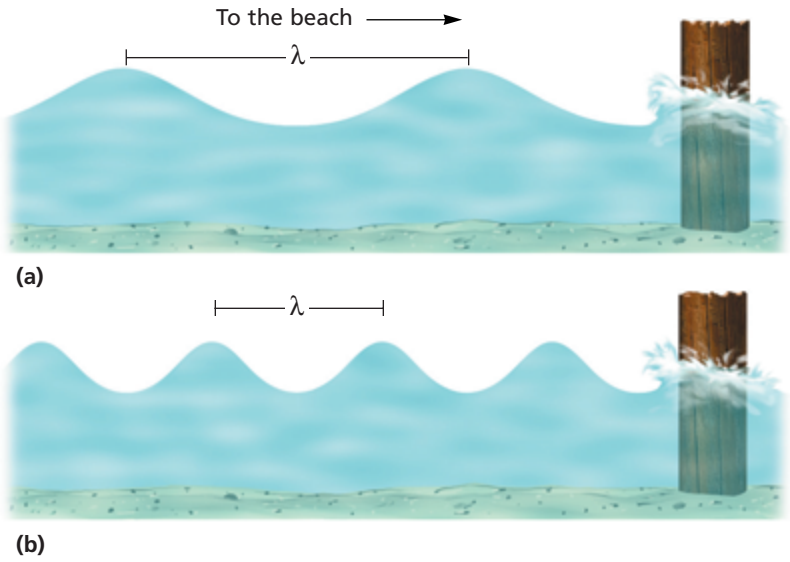

FIGURE 2 The distance between any two corresponding points on one of these water waves, such as from crest to crest, is the wave's wavelength, λ. We can measure the wave's frequency, ν, by observing how often the water level rises and falls at a given point, such as at the post.