

**Electromagnetic radiation  
Worksheet**

1. Arrange the following from longest wavelength to shortest wavelength:  
microwave, green light, orange light, radio wave, gamma radiation, ultraviolet, infrared
2. Arrange the above from highest frequency to lowest frequency
3. Arrange the above from most to least energy
4. Calculate the frequency of purple light that has a wavelength of  $4.3 \times 10^{-5}$  cm.
5. Calculate the wavelength of ultraviolet radiation that has a frequency of  $2 \times 10^{16}$  Hz.
6. Calculate the energy of X-rays with a frequency of  $4.2 \times 10^{18}$  Hz.  
Calculate energy for infrared light with a wavelength of  $1.2 \times 10^{-5}$  m.
7. Calculate wavelength when the energy is 23 Joules.
8. Calculate frequency when the energy is 6300 Joules.