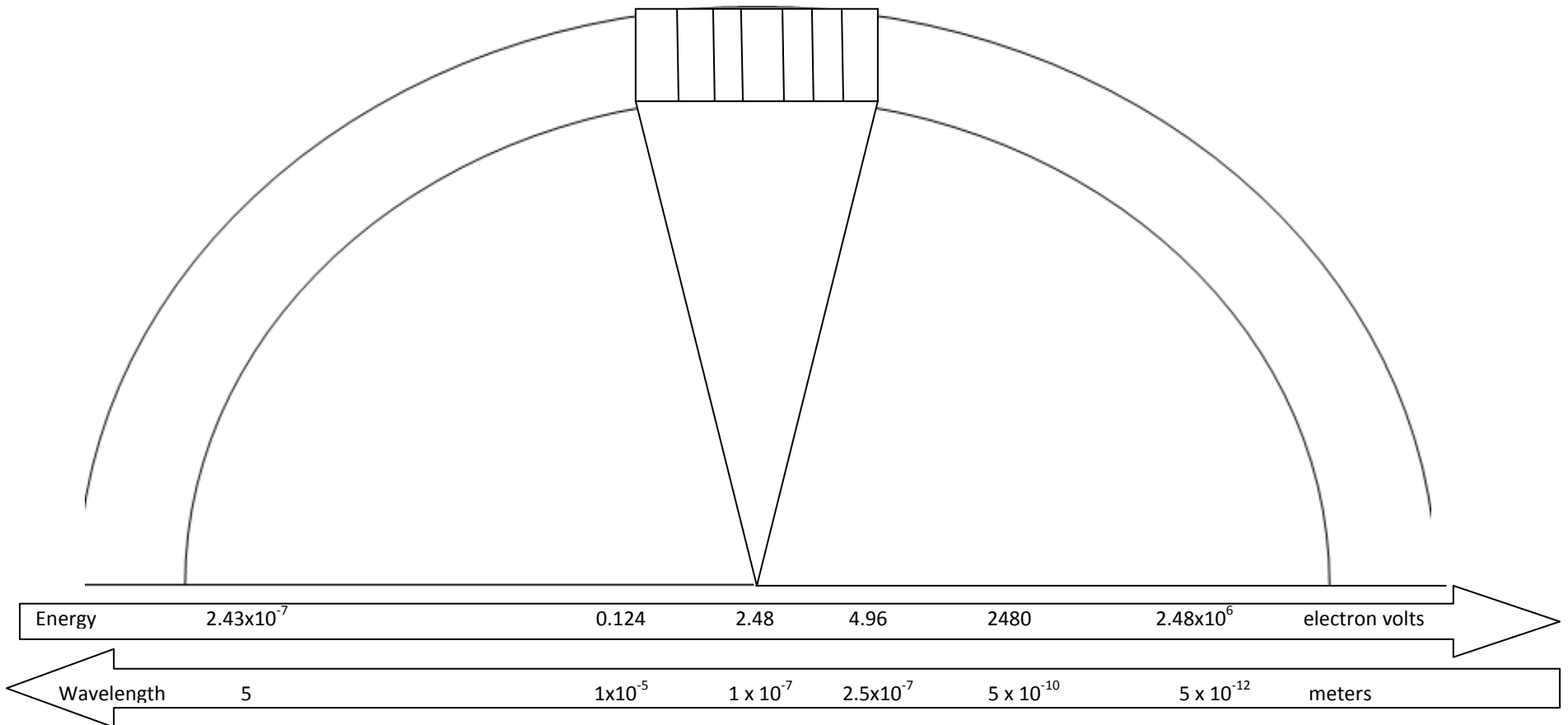


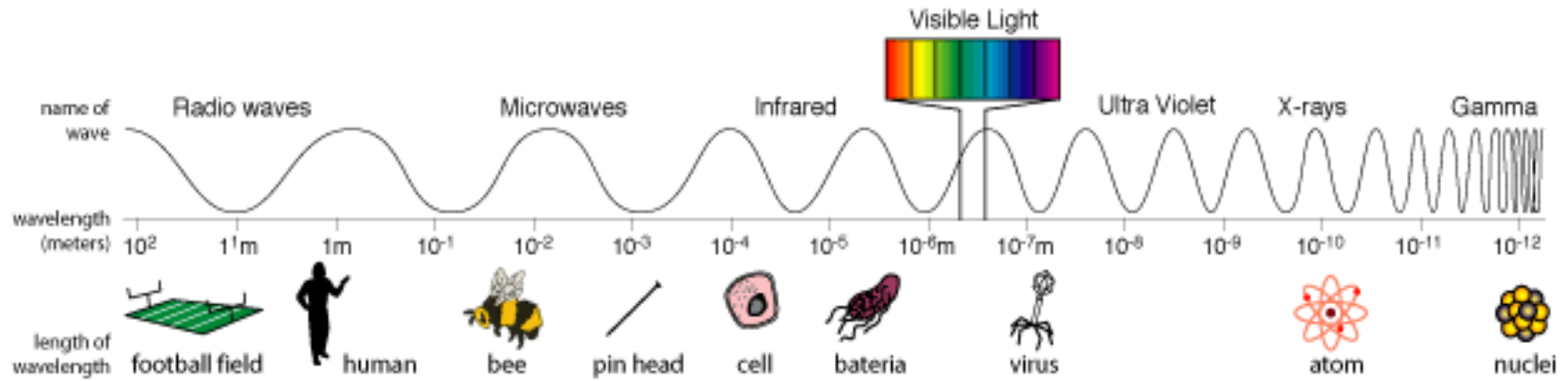
# The Electromagnetic Spectrum

Name \_\_\_\_\_

The diagram below represents the electromagnetic spectrum. Energy is plotted in electron volts and increases from left to right. Wavelength is plotted as meters and decreases from left to right. Use your text book and the information on the back of this page to help you add the 7 different types of electromagnetic radiation to the diagram. Label the region on the arc and shade according to the directions.

1. Radio Waves: shade this region black or dark gray
2. Micro waves: shade light gray
3. Infrared: Shade dark red
4. Visible light: shade each wavelength as you would see them.
5. Ultraviolet: Shade light violet or purple. (UVA,B,C)
6. X Ray: Shade Blue
7. Gamma Ray: Shade dark blue





Frequency and Wavelength of Energy in the Electromagnetic Spectrum		
Energy	Frequency in hertz	Wavelength in meters
gamma-rays	$10^{20}$ - $10^{24}$	$<10^{-12}$ m
x-rays	$10^{17}$ - $10^{20}$	$1 \times 10^{-9}$ - $1 \times 10^{-12}$
ultraviolet	$10^{15}$ - $10^{17}$	$400 \times 10^{-9}$ to $1 \times 10^{-9}$
visible	$4$ - $7.5 \times 10^{14}$	$750 \times 10^{-9}$ - $400 \times 10^{-9}$
near-infrared	$1 \times 10^{14}$ - $4 \times 10^{14}$	$2.5 \times 10^{-6}$ - $750 \times 10^{-9}$
infrared	$10^{13}$ - $10^{14}$	$25 \times 10^{-6}$ - $2.5 \times 10^{-6}$
microwaves	$3 \times 10^{11}$ - $10^{13}$	$1 \times 10^{-3}$ - $25 \times 10^{-6}$
radio waves	$<3 \times 10^{11}$	$>1$ mm