

<u>Wavelength range (nm)</u>	<u>Part of the EM spectrum</u>	<u>*Wavelength (nm)</u>	<u>Color</u>
$5 \times 10^7$ and longer	radio	650 – 700	red
$5 \times 10^5$ to $5 \times 10^7$	microwave	590 – 650	orange
700 to $5 \times 10^5$	infrared (IR)	580 – 590	yellow
400 to 700	visible*	490 – 580	green
10 to 400	ultraviolet(uv)	420 – 490	blue
10 and below	gamma or x-ray	400 – 420	violet

2. For each problem below, fill in the blanks and show math: Convert the given wavelength from meters to nanometers (or vice versa) and determine what type of radiation it is. (If it's visible, also state the color of light.)

a. EM radiation with a wavelength of  $4.8 \times 10^{-7}$  meters.

$$\lambda = \text{_____ m}$$

$$\lambda = \text{_____ nm}$$

part of spectrum: \_\_\_\_\_

b. EM radiation with a wavelength of 95 nanometers.

$$\lambda = \text{_____ m}$$

$$\lambda = \text{_____ nm}$$

part of spectrum: \_\_\_\_\_

c. EM radiation with a wavelength of  $3.6 \times 10^{-6}$  meters.

$$\lambda = \text{_____ m}$$

$$\lambda = \text{_____ nm}$$

part of spectrum: \_\_\_\_\_

d. EM radiation with a wavelength of 2.4 meters.

$$\lambda = \text{_____ m}$$

$$\lambda = \text{_____ nm}$$

part of spectrum: \_\_\_\_\_

e. EM radiation with a wavelength of 692 nanometers

$$\lambda = \text{_____ m}$$

$$\lambda = \text{_____ nm}$$

part of spectrum: \_\_\_\_\_

f. EM radiation with a wavelength of  $5.5 \times 10^{-10}$  m

$$\lambda = \text{_____ m}$$

$$\lambda = \text{_____ nm}$$

part of spectrum: \_\_\_\_\_

g. EM radiation with a wavelength of  $6.6 \times 10^6$  nm

$$\lambda = \text{_____ m}$$

$$\lambda = \text{_____ nm}$$

part of spectrum: \_\_\_\_\_

***1. Notes: Electromagnetic Radiation!***