LIGHT WORKSHEET, WAVELENGTH, FREQUENCY and ENERGY

Name_____ Date_____ Period_____

You must show all work to receive full credit.

Useful Information You May Need:

Red	700 - 650 nm
Orange	649 - 580 nm
Yellow	579 - 575 nm
Green	574 - 490 nm
Blue	489 - 455 nm
Indigo	454 - 425 nm
Violet	424 - 400 nm

_____1. Which has the greater λ blue or indigo light?

_____2. Which has the greater ν red or yellow light?

_____3. Which has the greater energy, a photon of yellow light or a photon of green light?

_____4. Which has the longer wavelength, light with a frequency of 7.32×10^{14} Hz or light with a frequency of 6.0×10^{14} Hz?

_____5. Which has higher energy, λ of 674 nm or λ 480 nm?

_____6. Which has a higher frequency, orange light or indigo light?

_____7. A certain red light has a wavelength of 725 nm and another red light has a frequency of 4.28×10^{14} /sec. Which would have higher energy per photon?

_____8. Find the color of light whose frequency is 5.21×10^{14} cycles/sec.

_____9. What is the frequency of light if its wavelength is 5.4×10^{-5} CM?

_____10. Which would have the higher frequency, light of wavelength of 521 nm or light with a wavelength of 605 nm?

_____11. Which would have the longer wavelength, light with a frequency of 4.5×10^{14} Hz or light with a frequency of 6.19×10^{14} Hz?