NAME: **HONORS CHEMISTRY**

SECTION: Pairs/Check/Share: Wavelength, Energy and Frequency

Directions:

1. Put both names on the paper. Show all your work on the paper.
2. The older partner does the even problems. The younger partner does the odd problems. Solve the first two problems side by side As you work, explain how you are doing the problem while your partner listens.
3. After each two problems, discuss the strategy you used and your answer with your partner. If both partners agree on the answer, the solver initials the answer. If an agreement can't be reached, both partners raise their hands to get the teacher's attention.
4. When all the problems have been solved, compare your answers with those of another group. If both pairs agree on the answers, circle the answer.
5. Turn in the sheet when you have finished.

Write the two light equations here: Memorize these!

Planck's constant: Speed of light:

Problems for you to solve:

1. Calculate the frequency of a wave whose wavelength is 5.0×10^{-6} m.

2. Calculate the wavelength, in m, of a wave with a frequency of 8.5×10^{12} s^{-1}.

3. What is the energy associated with a photon with a frequency of 4.90×10^{15} s^{-1}.

4. Calculate the frequency of a photon of light with an energy of 7.23×10^{-17} J.

5. A photon has a wavelength of 766 nm. What is its energy, in joules?

6. Calculate the wavelength, in nm, of a photon with an energy of 3.02×10^{-21} J.

7. A photon of light has a frequency of 8.69×10^{14} s^{-1}. What is its energy (in joules) and wavelength (in meters)?

8. A photon of electromagnetic radiation has an energy of 2.65×10^{-18} J. What is its frequency in Hz (s^{-1})and wavelength (in meters)?

The purpose of this assignment was to:

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Did I:	Circle the appropriate response:		
Explain how I did the problems?	Always	Sometimes	Rarely
Listen while my partner explained?	Always	Sometimes	Rarely
Give my partner positive support?	Always	Sometimes	Rarely
Stay on task during the assignment?	Always	Sometimes	Rarely
Use encouraging and polite words?	Always	Sometimes	Rarely
Record my work on the paper?	Always	Sometimes	Rarely
Demonstrate an understanding of the material?	Yes	No	

Comments: