

## Electromagnetic Spectrum Questions (using the Owl book)

1. Describe how the EMS models on pages 97 and 142 differ. Be very specific and detailed in your response.
2. Describe how the EMS models on pages 97 and 142 are similar. Be very specific and detailed in your response.
3. Which waves have the shortest wavelength?
4. Which waves have the highest energy?
5. Which waves have the longest wavelength?
6. Which waves have the lowest energy?
7. Which are the only waves the people can see with the unaided eye?
8. Looking at the EMS on page 97, energy \_\_\_\_\_ from left to right.
9. Looking at the EMS on page 142, energy \_\_\_\_\_ from top to bottom.
10. The wavelengths that stars emit depend on their \_\_\_\_\_.
11. Hot stars emit mostly \_\_\_\_\_ waves with \_\_\_\_\_ energy, such as X-rays, gamma rays and \_\_\_\_\_ waves.
12. Cool stars emit mostly \_\_\_\_\_ waves with \_\_\_\_\_ energy, such as \_\_\_\_\_ waves and radio waves.
13. The Sun emits most of its energy as \_\_\_\_\_.

14. Which color of light has the longest wavelength?
15. Which color of light has the shortest wavelength?
16. Use a “dictionary” to look up the meaning of the prefix *infra-*. What does this tell you about the position of infrared radiation on a diagram of the electromagnetic spectrum?
17. Use a “dictionary” to look up the meaning of the prefix *ultra-*. How does this relate to the location of ultraviolet wavelengths on the electromagnetic spectrum?
18. Ultraviolet rays cause sunburn, and X rays can penetrate deep inside our bodies. Gamma rays kill cancer cells. What does this show about how living material is affected by the shortest wavelengths in the electromagnetic spectrum?

Wave Name	Relative Size	Wavelength	Uses (3)