Unit 5 Objective Q&A Activity 2019 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per \_\_\_\_\_

Tasks: Individually write 2 possible exam questions for each objective and answer them in the space provided. Then, with your elbow partner, take turns quizzing each other. Remember, you will get out of this activity what you put into it. There is much to learn from this assignment and from each other!

|  |  |  |
| --- | --- | --- |
| Objective | Questions | Answers |
| 1. Outline the properties of waves (i.e. velocity, wavelength, frequency, period, and amplitude) and describe their relationship.Key Concepts: Velocity, wavelength (λ), frequency, period (T), T=1/f, amplitude (A), v = λ\*f |  |  |
| 2. Describe the composition and production of electromagnetic waves.Key Concepts: Electric field, magnetic field |  |  |
| 3. Explain how technological devices use the principles of waves to transmit information and energy. (Hint: think wave tech activitiy)Key Concepts: AM, FM, device ranges (remotes, CB’s, radio, wifi, 4G) |  |  |
| 4. Compare and contrast regions of the electromagnetic spectrum based on frequency, wavelength, and energy.Key Concepts: radio, micro, infrared, visible, ultraviolet, x-rays, gamma |  |  |
| 5. Define diffraction and interference and justify how they illustrate the wave nature of light. Key Concepts: Reflection, refraction, diffraction, interference, constructive, destructive |  |  |
| 6. Define the photoelectric effect and justify how it illustrates the particle nature of light.Key Concepts: Photon |  |  |
| 7. Explain how energy in waves can be converted into other forms of energy. (Hint: think laser music demo as an example)Key Concepts: Kinetic, potential, chemical, sound, thermal, electromagnetic |  |  |