



Electromagnetic Spectrum
Waves, Frequency, & Energy

Name: _____

Period: _____ Date: _____

KEY

- 1) What surprised Niels Bohr when he shined the glow of pink hydrogen gas through a prism?
When passed through a prism, hydrogen produced four bands of color. Hydrogen only has one electron, so how could it produce four lines of color?
- 2) As you move across the electromagnetic spectrum from radio waves to gamma rays what happens to
 - a) wavelength? *wavelength shortens*
 - b) frequency? *frequency increases*
- 3) A microwave has a frequency of 1.0×10^9 Hz, and a radar beam has a frequency of 5.0×10^{11} Hz. Which type of radiation has the longer wavelength? *Microwave has the longer wavelength because it has the lower frequency.*
- 4) A visible light radiation has a wavelength of 520 nm. What color is this radiation? *A wavelength of 520 nm will give this radiation the color of green.*