Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Pd: \_\_\_\_\_ Ast: \_\_\_\_\_

**Electromagnetic Spectrum Notes**

**Electromagnetic Waves**

* What are electromagnetic waves? Draw a diagram (to the best of your ability) of an electromagnetic wave.

**The Electromagnetic Spectrum**

* How are electromagnetic waves classified?
* What is the relationship between the wavelength and the energy of an electromagnetic wave?

**Radio Waves**

* How does the wavelength of radio waves compare to the rest of the E/M spectrum?
* What familiar objects can you compare the wavelength of radio waves to?
* List some examples of uses for radio waves.

**Microwaves**

* What metric unit would you use to measure microwaves?
* How do microwave ovens use microwaves to heat food?
* List some applications for microwaves?

**Infrared Waves**

* What objects can you compare the wavelength of infrared waves to?
* List some applications for infrared waves.

**Visible Light**

* Why do we classify a specific range of wavelengths as the “visible spectrum”?
* What is meant by the term “white light”?
* Why do our eyes perceive different colors?
* List the colors in order by wavelength (longest to shortest).

**Ultraviolet Waves**

* Why is it important that bumble bees can see UV light?
* What can extended exposure to UV light cause in humans?
* What does it mean if a chemical “fluoresces” under UV light?

**X-Rays**

* What is the wavelength of a typical x-ray?
  + How many nanometers are in a meter?
* What property of substances allows them to show up on film as a result of x-rays?

**Gamma Rays**

* How are gamma rays generated?
* What application do gamma rays have in science?