**Light and the Electromagnetic Spectrum Guided Notes**

Take a look at the images on the screen. Answer the following questions and be prepared to share.

What are some differences you notice about these images?

Why would having these different images be important to the study of the universe?

LIght Energy: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Example: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Light: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Light is a transverse wave.***

Light \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ need a medium to travel.

Frequency: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Units: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Frequency describes the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

High frequency = UV light waves

Low frequency = Radio waves

Let’s look at the relationship between wavelength, frequency, and energy, as it applies to waves.

The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ includes :

**All waves travel at 300,000 k/s = the speed of light**

Sketch the electromagnetic spectrum below:

|  |  |  |
| --- | --- | --- |
| **Section of the EMS** | **Description** | **Everyday uses** |
| Radio waves |  |  |
| Microwaves |  |  |
| Infrared waves |  |  |
| Visible Light |  |  |
| Ultraviolet waves |  |  |
| X-ray waves |  |  |
| Gamma waves |  |  |