Assignment: 1

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour:\_\_\_\_

**Light and the Electromagnetic Spectrum**

**Light is comprised of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

 Photons = (named by Albert Einstein) are \_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_

**Light travels extremely \_\_\_\_\_\_\_\_**

* Approximately \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ km/s through a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (remember that different \_\_\_\_\_\_\_\_\_\_\_\_\_\_ can cause light to change \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as it passes through them)
* Light travels much \_\_\_\_\_\_\_\_\_\_\_\_ than \_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ Example: You see lightning before you hear the thunder

**Visible Light is part of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ spectrum… therefore it is an electromagnetic \_\_\_\_\_\_\_\_\_**

* Remember electromagnetic waves do \_\_\_\_\_\_\_\_ need a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to travel through
* Electromagnetic waves travel using both the \_\_\_\_\_\_\_\_\_\_\_\_ field and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ field

   

**Polarized Light** = Light that passes through a polarized \_\_\_\_\_\_\_\_\_\_\_\_ that \_\_\_\_\_\_\_\_\_\_ light waves vibrating in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Color**

* There are three primary colors of light:
	+ \_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_
	+ Note: These are \_\_\_\_\_\_\_ the same as the primary colors of paint
* The color something \_\_\_\_\_\_\_\_\_\_\_\_\_ is due to the wavelengths it \_\_\_\_\_\_\_\_\_\_\_\_\_ NOT what it absorbs
	+ Ex: Leaves are green because the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ molecules \_\_\_\_\_\_\_\_\_\_\_ wavelengths of \_\_\_\_\_\_\_\_\_\_\_\_ light and \_\_\_\_\_\_\_\_\_\_ red and blue
* Colorblindness – the \_\_\_\_\_\_\_\_\_\_\_ in your eyes (we will get into details of the eye later this week) are sensitive to different \_\_\_\_\_\_\_\_\_\_\_\_
	+ Most common form of colorblindness is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
		- Affects about \_\_\_ of every \_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_
		- Affects \_\_\_\_\_\_ more often than women as it is an \_\_\_ chromosome sex linked trait



After you have taken the quiz and used Google on some of your answers, jot down notes about the different parts of the electromagnetic spectrum that you missed during the presentations. (Hint: If it was on the quiz… it will most likely be on the mini test for this unit!)

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| **Topic:** | **Additional Notes:** |
| **Radio** |  |
| **Microwaves** |  |
| **Infrared** |  |
| **Visible** |  |
| **Ultra Violet (UV)** |  |
| **X-ray** |  |
| **Gamma Rays** |  |
| **Lasers** |  |
| **Television** |  |