Light Study Guide One from my powerpoint Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Characteristics of light:** Light is \_\_\_energy\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ you can see. Light travels in a \_\_\_\_\_straight\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ line and also in \_\_\_\_\_waves\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. **Electro Magnetic Spectrum:** The Sun gives off \_\_7\_\_\_\_\_\_\_\_\_ different kinds of energy through waves. Visible light is one of the seven kinds of energy the Sun gives off. Visible light is light that you can \_\_\_see\_\_\_\_\_\_\_\_\_\_.
3. **Visible Light:** \_\_\_\_\_\_\_roygbiv\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Red light has the longest\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

wavelength while violet has the \_\_\_\_\_shortest\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ wavelength. The instrument that proves white light is made of 7 colors is the \_\_\_\_prism\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. **Reflected Light:** Light that \_\_\_\_\_bounces off\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ a surface is reflected. What kind of surfaces do this the best? \_\_\_\_\_smooth shiny\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ What tool proves this to be true? \_\_\_\_\_\_\_\_\_mirror\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. **Transmitted light:** Transmitted light is light that \_\_\_passes through\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ through a material or object. What kind of materials allow for transmitted light to pass through? \_\_glass, water, air\_\_\_\_\_\_\_\_\_

**When light is transmitted it is not** \_\_\_\_absorbed or reflected\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. **Absorbed light:** Light that is not \_\_\_\_\_\_reflected\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_transmitted\_\_\_\_\_\_\_\_\_\_\_\_\_ is absorbed. Materials that absorb light usually change it to what kind of energy? \_\_\_heat\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**What kind of clothes absorb more light?** \_\_\_\_dark colors\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What color clothes absorb less light and usually reflect the light? \_\_\_light colors like white\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**What clothes should you wear in the hot summer**? \_\_\_\_white\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Refraction:** Refraction is when light \_\_bends\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.The best demonstration of this is when I put a \_\_\_\_\_\_pencil\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in a \_\_\_\_\_\_glass\_\_\_\_\_\_\_\_\_\_ of water.

**What causes this bending? \_\_\_\_\_\_speed of light changes speed when going through water\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **Transparent materials:** These are materials that allow for \_\_\_all\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_most\_\_\_\_\_\_\_\_of the light to pass through.

**Some obvious materials that allow this are: \_\_\_\_\_\_glass, air, water, plastic wrap\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

When you see through these materials, the objects look **\_\_\_\_clear\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **Translucent materials:** Materials that allow for \_\_\_some\_\_\_\_\_\_\_\_\_ of the light to pass through but not all or most to completely pass through.

**Examples of these materials:** \_\_\_\_\_wax paper, frosted windows\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Opaque materials**: Materials that do not allow for \_\_any\_\_\_\_\_\_\_\_\_\_ light to pass through are called this. Opaque objects make \_\_\_\_shadows\_\_\_\_\_\_\_\_\_\_\_. The opaque object usually \_\_\_\_blocks\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the light.

Examples of opaque objects are: \_\_\_people, desks, doors, books\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_