

## All About Light—Notes Outline

The speed of light is \_\_\_\_\_ in space. In glass, light slows down to \_\_\_\_\_.

Light wave wavelengths go from about \_\_\_\_\_ to about \_\_\_\_\_ in length.

A nm, \_\_\_\_\_, is \_\_\_\_\_ meter, which is one \_\_\_\_\_ of a meter.

### When light strikes an object, it will do one of several things:

1. It can be \_\_\_\_\_; it is \_\_\_\_\_ to the object (mainly as \_\_\_\_\_).
2. It can be \_\_\_\_\_, meaning it \_\_\_\_\_ the object.
3. It can be \_\_\_\_\_, or \_\_\_\_\_ the object.

\_\_\_\_\_ objects \_\_\_\_\_ allow light to pass through; they \_\_\_\_\_ or \_\_\_\_\_ it all. \_\_\_\_\_ objects can be seen \_\_\_\_\_, but not \_\_\_\_\_; they \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ the light.

\_\_\_\_\_ objects allow \_\_\_\_\_ of the light to \_\_\_\_\_, so they can be seen through \_\_\_\_\_.

White light is made up of \_\_\_\_\_. A \_\_\_\_\_ splits the light into its \_\_\_\_\_ colors.

We see the color of light that is being \_\_\_\_\_ by an object.

A blue object is \_\_\_\_\_ blue light and \_\_\_\_\_ all the other colors. A black object absorbs \_\_\_\_\_, and reflects \_\_\_\_\_. A white object \_\_\_\_\_ all light and \_\_\_\_\_ none.

The three \_\_\_\_\_ colors of light are: \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.

### Light and Reflection

\_\_\_\_\_ types of reflection of light:

- \_\_\_\_\_ diffusion occurs when light strikes a \_\_\_\_\_ surface causing you to see an \_\_\_\_\_ on the surface because most or all of the reflected light \_\_\_\_\_ your eyes.  
Example: a \_\_\_\_\_ displays regular reflection, and with a \_\_\_\_\_ (flat) mirror,

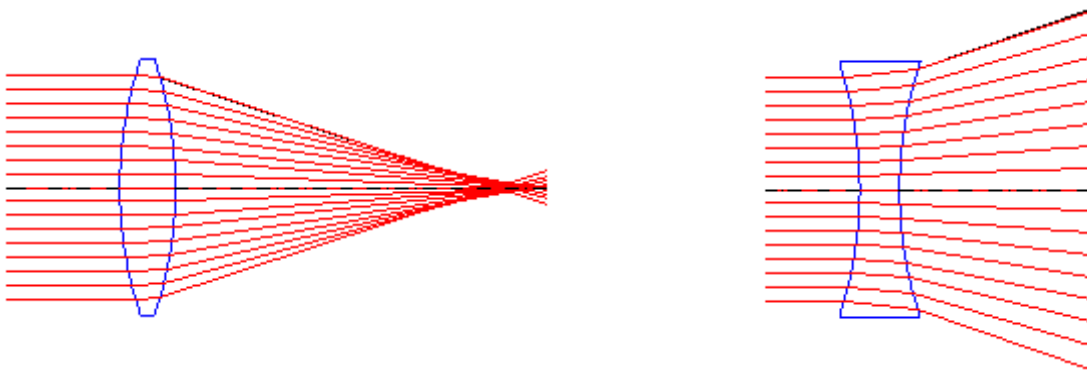
Name: \_\_\_\_\_ Date: \_\_\_\_\_

you see an \_\_\_\_\_, \_\_\_\_\_-size image. Curved mirrors change the \_\_\_\_\_ of the image.

- With \_\_\_\_\_ reflection, a \_\_\_\_\_ surface \_\_\_\_\_ the light in many different \_\_\_\_\_ so that not all of it reaches your \_\_\_\_\_, and you \_\_\_\_\_ see a reflection.

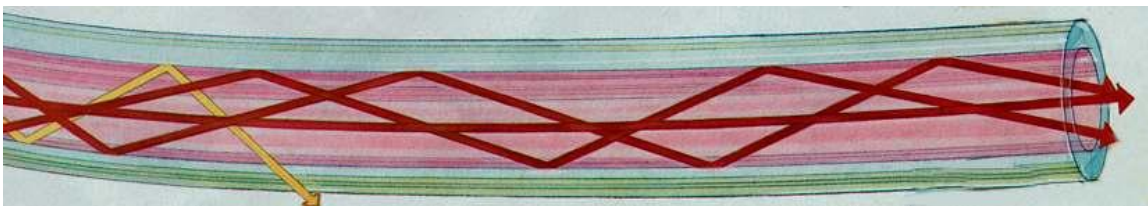
## Light and Refraction

Light \_\_\_\_\_ as it goes from space into air, water, or solids. Why? Because the \_\_\_\_\_ get in the way. A \_\_\_\_\_ is a clear, curved \_\_\_\_\_ object used to bend light. ↘ \_\_\_\_\_ lenses \_\_\_\_\_ light and can form an \_\_\_\_\_.



\_\_\_\_\_ lenses \_\_\_\_\_ light rays. ↙

When light strikes a boundary between two \_\_\_\_\_ materials at the correct \_\_\_\_\_, all the light gets \_\_\_\_\_. This is called total \_\_\_\_\_ reflection and it is how \_\_\_\_\_ work. It allows the \_\_\_\_\_ of light to travel great \_\_\_\_\_ over \_\_\_\_\_ paths. ↓



## Lasers

The word “lasers” stands for “light \_\_\_\_\_ by stimulated \_\_\_\_\_ of \_\_\_\_\_.” Lasers use \_\_\_\_\_ wavelength of light so that all the \_\_\_\_\_ and \_\_\_\_\_ line up. Because they are all lined up, they do not \_\_\_\_\_ with each other and \_\_\_\_\_ the light out like white light.