

Literary Reading – Light

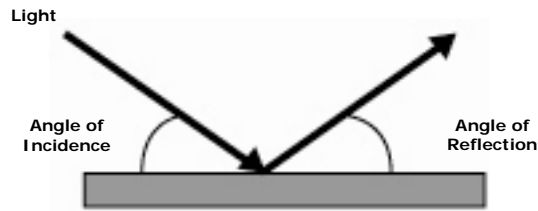
If you were asked to make a list of all the things that give us light, what would you write? Light bulbs, candles, or campfires may be on your list. The sun is an important source, also. Light is energy that travels in waves and is produced by hot, energetic objects.

Light bulbs are hot, energetic objects. If you have ever touched a light bulb while it is on, you know it is hot. You know the light bulb needs energy because you have to turn the light switch on to provide electricity for it. The electricity flows through either a thin metal wire or a gas. The wire or gas glows and gives off light when heated.



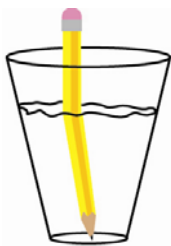
One way the three forms of energy are alike is that they can be reflected. Think back to the last time you looked in a mirror. You saw a **reflection**, the *bouncing back of light waves from a surface*. If light wasn't reflected, you would have seen anything. *Light strikes the mirror at an angle of incidence. It bounces off at the same angle, the angle of reflection.*

We are very familiar with reflection when it comes to mirrors and other items that reflect images. Did you know that everything reflects light? When we look at things, the color that we see is light that is reflected from the object. For example, if we look at a red



apple it reflects red and **absorbs**, or *takes in all colors*, but red. What color is reflected when you look at a banana? What colors are absorbed when you look at a banana? All colors are reflected if an object appears white. All colors are absorbed if an object appears black. Most objects reflect more than one color, creating a vast number of color combinations. Sound waves are reflected from canyon walls if you shout loudly. You may have enjoyed hearing the echo of your voice. Heat waves are reflected from windows by aluminum foil placed over them. This keeps houses cooler in the summer.

Energy waves can also be **refracted**, *bent*. Light is easiest to observe as it is refracted. Light always travels in a straight line when going through a single **medium**, *any substance through which a light wave can travel*. In some mediums, such as air, light travels quickly. In other mediums, such as water or glass, light travels more slowly. When light travels from one type of medium to another, the light changes speed and is refracted. Look at the picture of the pencil in the glass of water. The light rays bend as the light rays pass from the water to the air, making the pencil look bent. This is also seen



In a rainbow. To get the same effect, shine a light through a **prism**, *a medium that breaks up light*. White light is actually made up of seven different colors.

Heat, light and sound are similar to each other. They are forms of energy and they travel in waves.

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