



ST. GREGORY'S HIGH SCHOOL

Thinking Schools; Thinking Nation

Reading comprehension activity:

Light is everywhere, and without light, life would not exist. **Light** waves travel from place to place. Light is a form of energy that can be seen when it is reflected off the surface of an object. It is visible to the human eye and is responsible for the sense of sight. Light waves travel through the air from place to place and do not carry matter. Light travels at a speed of 186,000 miles per second. It takes about 8 minutes for the light from the Sun 93 million miles away to reach the Earth. Light is believed to travel faster than anything in the universe. Light is unable to travel through solids, but it can travel through liquids and gases.

Light can travel through some objects very easily. If light can pass through an object like air, water, or glass, the object is **transparent**. When an object allows light to bounce off it or reflect the light, the object is **opaque**. Finally, **translucent** objects cause light to scatter and go in different directions.

There are three ways light can be controlled or changed. **Reflection** occurs when light waves bounce off a surface. This allows the surface to be visible, and an object can be seen. Without light **reflection**, people could not see things. The light from a lamp helps a person see the words in the book. Another example of reflection is when the Sun gives off light, but the moon cannot. The light from the Sun reaches the moon and it shines in the night sky. The light **reflects** off the surface of the moon.

Refraction is the bending or turning of light, changing its path. This can occur when light travels through water or other **transparent** objects. The direction and speed of the light changes. Glasses and telescopes are examples. Another example of refraction is a prism. When light travels through the prism it changes direction. On the other side, various colors result at different angles. The light has been **refracted**.

Blocked light is blocked by non-transparent objects. Light can be blocked with a sun visor, umbrella, or the moon during an eclipse. Another example of blocked light will cause a shadow of the blocked object to appear. Therefore, a person can see the shadow of their body on the sidewalk.

There are several other examples of light being changed or used. Light waves or energy can be changed in many ways. The light energy from the Sun can be turned into electricity and is used by plants to make food. The lenses in glasses people wear are curved, which changes the light waves and help them see better. When light reflects off a mirror, people can see themselves. When a pencil is placed into a glass of water, the pencil will seem like it is broken into two pieces. Because the light is traveling through the water, there is refraction, and the light bends causing the pencil to look like it is in two pieces.

Nearly everything that can be seen depends on light in some way. It takes light for TVs, video games, and computers to work. Also, without light, a person would not be able to see the beautiful colors of a rainbow, a sunset, a sunrise, or the full moon in the night sky.

1. Which of the following occurs when light waves bounce off a surface?

- Refraction
- Reflection
- Transparency

- Blocked light
2. If light can pass through an object like air, water, or glass, the object is which of the following?
 - Translucent
 - Transparent
 - Opaque
 - Blocked
 3. Which of the following is an example of a non-transparent object?
 - Sun visor
 - Moon
 - Umbrella
 - All the above
 4. What happens when light travels through a prism?
 - It is blocked
 - It is reflected
 - It is opaque
 - It changes direction
 5. Which of the following objects cause light to scatter and go in different directions?
 - Translucent
 - Transparent
 - Opaque
 - Blocked
 6. The bending or turning of light as it changes its path is which of the following?
 - Reflected
 - Blocked
 - Refracted
 - None of the above
 7. How blocked light can blocked?
 8. What is the bending or turning of light, changing its path.

