Lesson 24
How Lights Interact with Different Materials

Have you ever seen artwork on a stained glass? Stained glasses are seen in churches, art museums, and even in some houses. The design on stained glasses are achieved through the use of glasses with various colors and hues, making them a sight to behold.

While light partially gets through a stained glass, some materials like a wooden door, do not allow light to pass through them. There are also materials, like the clear glass windows, that let light shine through them.

Visible light

The *light* is visible to the human eye is called visible light or simple light. The visible light is only part of the electromagnetic spectrum (EM). The EM shows the entire range of waves present in our world. The primary source of the visible light is the sun. the visible light allows us to see the color that is not absorbed by the objects. For example, we see most plants as green because the leaves absorb all colors of the visible light except for green.

To understand light further, we have to study how it interacts with different objects. This branch of science is called optics. Optics is the study of the refraction, reflection, absorption and transmission of light.

Reflection

Reflection refers to the bouncing back of light when it hits an object. Some object with flat surface, like mirrors, reflect light in a straight, predictable way. Some objects with uneven surfaces, like rocks, reflect light in a scattered way.

Absorption

Absorption refers to a material’s taking in of light and not reflecting it back. For example, when light strikes black surface, it absorbed by the surface and nothing is reflected.

Transmission

Transmission refers to the passing of light through some materials. For example, when light passes through a glass window, it is transmitted to the other side, allowing the light to pass through the window.