Sunlight and Shadows

Light

Light is a form of energy that travels in straight lines. The Sun is the main natural source of light on Earth. Darkness, like at night time, is the absence of light.

Light sources

A light source is something that produces light. Light sources can be natural or artificial. The Sun and a firefly are examples of natural light sources. A light bulb and candle are examples of artificial light sources.

natural light sources **artificial light sources**



Sun



firefly



light bulb



candle

Reflectors

A reflector is an object that reflects light from a light source. Light is not produced by a reflector. The light from a light source hits and then bounces off a reflector's surface. When this happens, the reflector appears to be lit up. Reflectors can be natural or artificial.

Animals' eyes and the Moon are examples of natural reflectors. Reflective clothing or a bike reflector are examples of artificial reflectors.

natural reflectors **artificial reflectors**



animals' eyes



Moon



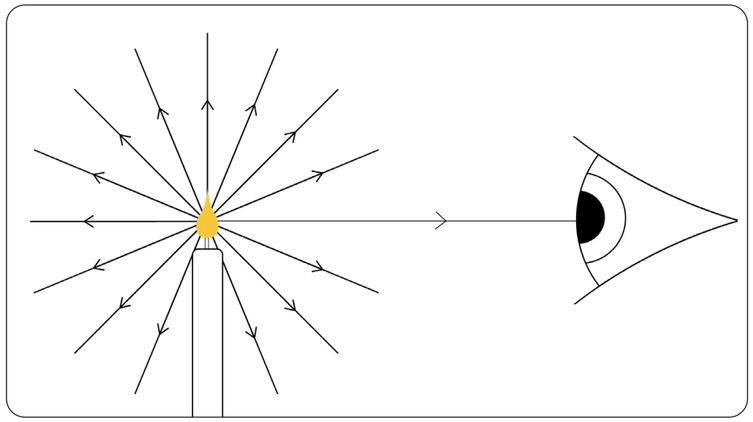
reflective clothing



bike reflector

Seeing light

Without light, we cannot see. We can see a light source because light travels from the light source into our eye.



Shadows

A shadow is an area of darkness. A shadow is made when an object blocks the passage of light from a light source. An object's shadow always forms on the side opposite the light source. The shape of a shadow is the same as the object that created it because light travels in straight lines.





Shadows and opaque, transparent and translucent objects

Opaque objects, such as wooden or stone blocks, cast dark shadows. Translucent objects, such as frosted glass or tracing paper, cast light, blurry shadows. Transparent objects, such as glass or water, cast very light shadows.



opaque object



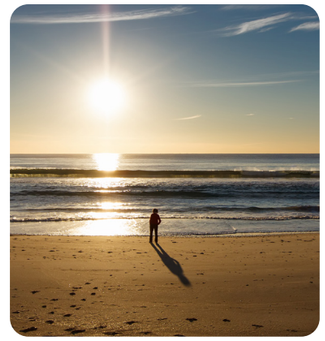
translucent object



transparent object

Changes in shadows

Shadows change shape and size when a light source moves. For example, when a light source is high above an object, the shadow is short and when a light source is low down, the shadow is long.



Sun safety

The Sun gives out harmful light rays called ultraviolet (UV) light that damage our skin and eyes. There are five ways people can protect themselves from UV light.



apply sun cream



wear loose, close-weave clothing



wear a wide-brimmed hat



wear sunglasses that block UV light



find good quality shade

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