

What is light?

Light is a type of energy that lets us see things

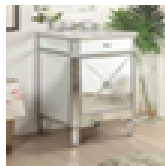
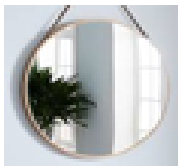


If there is no light then it is dark and we cannot see anything

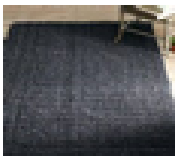


Reflections

Shiny surfaces reflect light



Matt surfaces don't reflect light very well



Key Vocabulary

absorb	Take in or soak up
dark	The absence of light
energy	A supply of power. The ability to do work
light	A type of energy. We can see objects because our eyes can sense light
light source	Where light comes from, eg a candle, the Sun
mirror	A shiny surface that reflects light in a regular way
opaque	Not clear. Blocks light so that none gets through
reflect	To throw back or bounce light from a surface
shadow	a dark shape or outline of something that is made when light is blocked
transparent	clear, see-through, lets light pass through
translucent	Almost see through, lets some light through

Sunlight

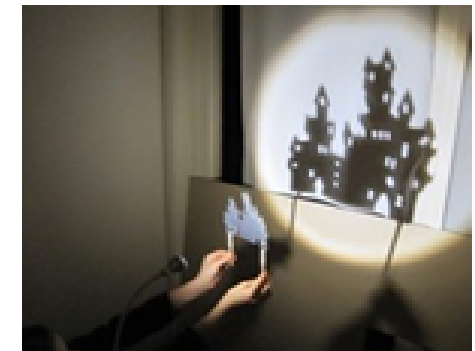


The light from the sun can be dangerous. It can damage our eyes. We must never look directly at the sun. We can protect our eyes by wearing sunglasses or sunhats in bright sunlight.

Shadows



An opaque object blocks the light from getting through. A dark shape or outline is formed. This is a shadow



We can change the size of the shadow by changing the position of the:

- light source
- object
- surface where the shadow is being made

	Key Learning:
1	How do you define light and dark? We need light to see. Light can come from many different sources, such as the Sun, stars, torches, lamps and candles. Some sources of light are so powerful that they can damage our eyes if we directly look at it. That's why we often need sunglasses. Light travels faster than anything in the universe and it always travels in straight lines. Darkness is the absence of light.
2	What is reflection? What materials are reflective? When light from an object is reflected by a surface, it changes direction. It bounces off the surface at the same angle as it hits it. Smooth, shiny surfaces such as mirrors and polished metals reflect light well. Dull and dark surfaces such as dark fabrics do not reflect light well.
3	How do mirrors work? Why are they so good at reflecting? Mirrors, however, reflect almost all the light that hits them. The metallic coating on the back causes the reflection. When you stand in front of a mirror, your body reflects patterns of light to the mirror. Those patterns of light bounce off the mirror and go back to your eyes.
4	What are benefits and dangers of the sun? UVA also increases the damaging effects of UVB, including skin cancer and cataracts. However, it is also important to make sure that you do spend some time outdoors in nature. This is important for mental health and also your physical health, as you get Vitamin D from the sun.
5	How does light travel? Light travels in straight lines from the source. It reflects off objects in straight lines as well. This is how a smooth, shiny mirror reverses what you see. When light reflects off a rough surface it goes in different directions so you don't get a sharp reflection. Think about how different a reflection is in still water compared to water that has waves or ripples.
6	How is a shadow formed? A shadow is a dark shape made when light is stopped or blocked by an object or a person. Some objects are opaque such as stone, metal and wood. This means light doesn't travel through them. Light bounces back off the object. On the other side of the object a shadow is formed.