

# Science - Time to Shine

Light is a transfer of energy and it travels in straight lines. Without light you wouldn't be able to see anything.

## Key Vocabulary

Transparent	Transparent materials let light pass through them
Translucent	Translucent materials let some light through but blur the detail of what you can see
Opaque	Opaque materials block light so it can't pass through.
Light source	A source of light is something that gives off light
Reflection	Light bouncing off a surface at the same angle as it hits it.

Did you know that some animals can produce their own light? This is called Bioluminescence. Can you find out some of their names?

## Light sources

A source of light is something that gives off light when it is heated or burned, or when chemicals inside it react with each other.



Sunlight is light produced by the sun as it burns. The Sun is a massive ball of burning gas.

A candle is a solid block of wax with a string wick in it. When it is lit, the flame burns at about 1,000°C and shines with a warm yellow light.



Some lightbulbs contain wires that glow if they're heated by electricity. Others contain gases that glow when electricity flows through them.

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## Seeing things

You can see things because light shines out from a light source, bounces off objects and then enters your eyes. Your eyes collect this information and send it to the brain, which understands it as pictures.



There are three different types of materials: transparent, translucent and opaque.

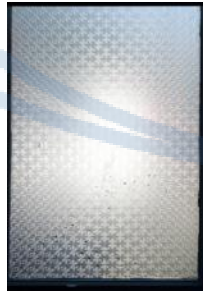
## Transparent

Transparent materials let light pass through them, so you can see clearly what is on the other side.



## Translucent

Translucent materials let some light through, but they scatter it in all directions, and you can't see clearly through them. Translucent objects blur the detail of what you can see, like the glass in a bathroom window.



## Opaque

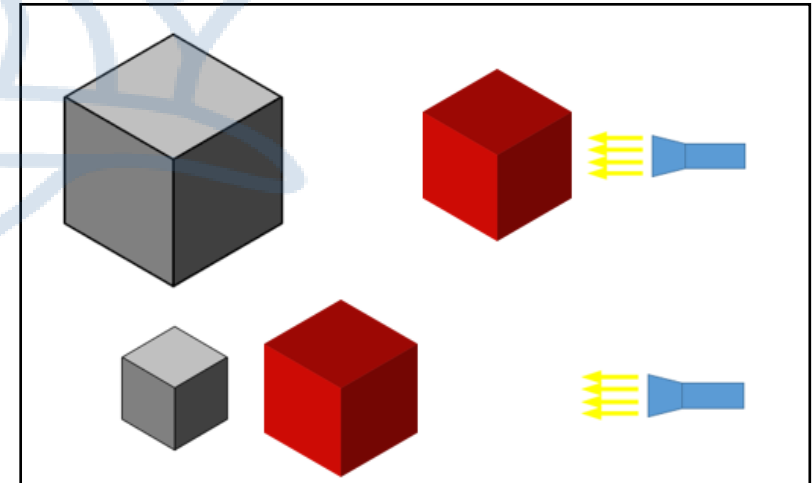
Opaque materials block light so it can't pass through. This means you can't see through them.

Can you find examples of the three different types of material in your house?

## Shadows

A shadow is a dark shape where light doesn't shine. It is made when an opaque object blocks light. The size and shape of a shadow depends on the position of the light source and how far the object is from it.

Moving it closer to the light source creates a bigger shadow.



Moving an object further away from a light source creates a smaller shadow.

## Reflecting

Reflecting means bouncing off a surface at the same angle as it hits it. Surfaces that are shiny reflect light well, for example mirrors and polished metals. They are not sources of light, but they reflect light that shines on them.



Did you know that light is the fastest moving thing in the universe? It travels about 300,000,000 metres in one second!!