

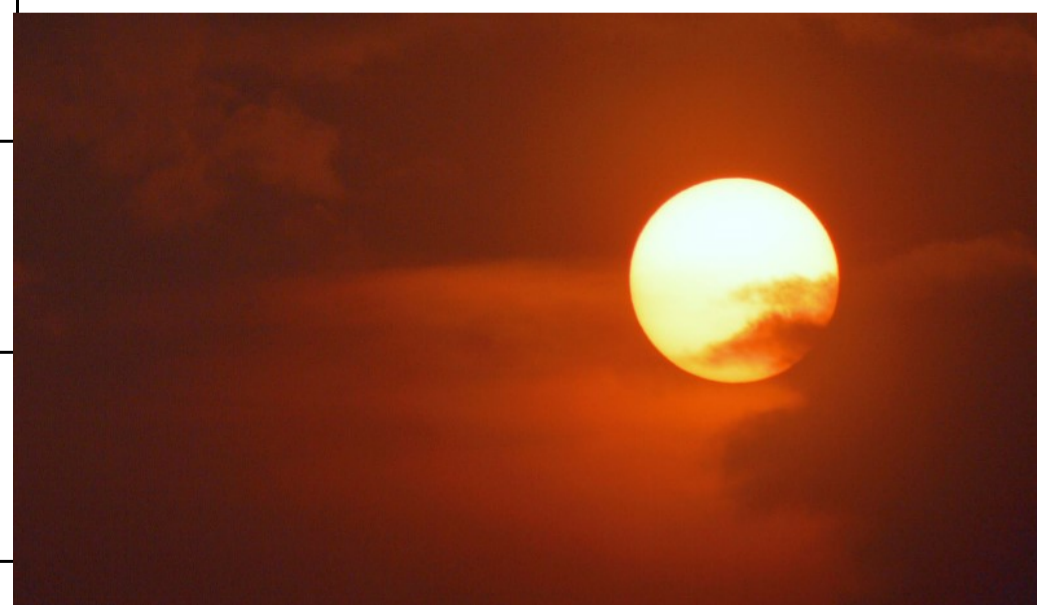
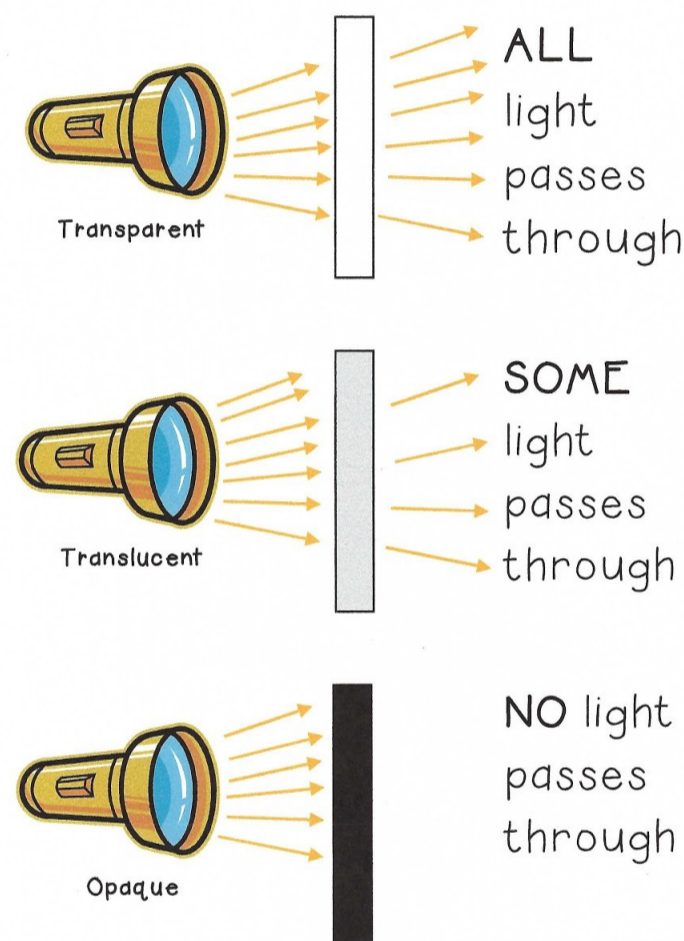
Light and Shadows



Vocabulary

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|---------------------|---|
| Light source | An object that emits light around itself. |
| Illuminate | A verb meaning to light up. E.g. A flash of light illuminated the house. |
| Opaque | Not able to see through (not transparent). |
| Translucent | A material allowing light, but not detailed shapes, to pass through (semi-transparent). |
| Transparent | A material allowing light to pass through so that objects behind can be seen clearly. |
| Shadow | An area of darkness produced by an object coming between rays of light and a surface. |
| Source | A place, person or thing, from which something begins or can be found. |
| Darkness | The absence of light in a place |
| Mirror | A surface, typically glass coated with metal, which reflects a clear image. |
| Reflection | The throwing back of light, heat or sound by a body or surface without absorbing it. |
| Light ray | A line (straight or curved) that is perpendicular to the front of the light beam. |
| Light beam | A projection of light energy radiating from a light source |

Translucent, Transparent & Opaque



Key Knowledge

Light is a beam of energy that travels in a wave from a source. A wave of light can only travel in a straight line. Waves of light are called light rays.

The moon is not a light source because it does not make its own light. We can see the moon because light from the sun reflects off it (bounces off it) back to the earth.

Dark is the absence of light. If there is no light from a light source, it will be dark.

The sun emits (gives out) rays of light. We can't see all the types of light that come from the sun. The visible spectrum is the name for the light that we can see, and is made up of the colours of the rainbow:

UV light causes sun burn, wrinkles and skin cancer, damages the eyes and can change the colour of some materials.

Some objects, like the card, block light well and don't let any get through. These objects are called opaque.

Other things let some light through, but scatter the light so we can't see through them properly. These things are called translucent.

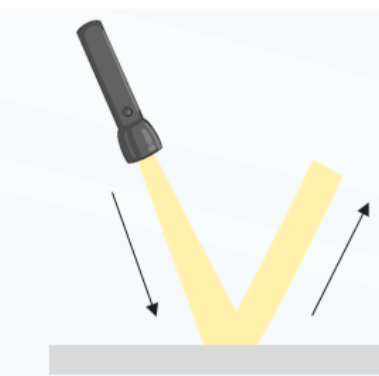
Transparent objects let light travel through them easily.

Some surfaces reflect light better than others.

The surfaces that reflect light best are smooth, shiny and flat.

This is because the light rays bounce off these surfaces at the same angle.

If light hits a rough surface, the light rays all bounce off at different angles, meaning the light is scattered. It does not reflect well.



When the light rays hit the smooth mirror, they all bounce off at the same angle, creating a clear reflection.



When the light rays hit a rough surface, they scatter in all different directions, so it doesn't reflect well.