

What should I already know?

- Some things give us **light**, such as lamps and candles.

What will I know by the end of the unit?

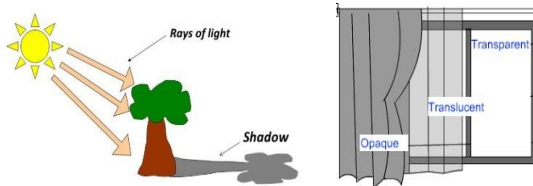
What is a light source?

- A **light source** is something that **gives us light**, for example, the sun, fire, a torch or a lamp.
- We need a **light source** to be able to see things.
- When there is **no light source**, everything is **dark**.
- The light from the sun is **very bright** and can **damage** our eyes if we look straight at it. This is why we wear **sunglasses**.



How are shadows created?

- When light is blocked by an opaque object, a dark shadow is formed. Opaque means we cannot see through it or shine a light through it.



- The size of a shadow changes when the light source moves. The further away the light source is, the smaller the shadow is. The closer the source of light is, the bigger the shadow.



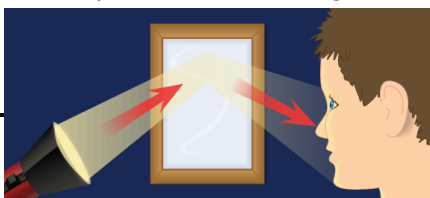
LARGE SHADOW
when the toy is close to the light

SMALLER SHADOW
when the toy is further from the light

TINY SHADOW
when the toy is a long way from the light

Reflection

- Light is **reflected** from surfaces.
- **Shiny** things (mirrors, water) are **not sources of light**, they just **reflect** light well and look **bright**.
- Without a light source, shiny objects would not produce their own light.



Vocabulary

angle	the direction from which you look at something
bright	a colour that is strong, easy to notice and not dark
dark	when there is no light
dim	light that is not bright
electricity	a form of energy that can be carried by wires and is used for heating and lighting, and to provide power for machines
emits	to emit a sound or light means to produce it
light	a brightness that lets you see things
mirror	a flat piece of glass which reflects light , so that when you look at it you can see yourself reflected in it
opaque	if an object is opaque , you cannot see through it
product	something that is made or produced
reflects	when light bounces off a surface, rather than passing through or being absorbed
shadows	a dark shape caused by something standing between a light and a surface
source	where something comes from
surface	the flat, top part, or the outside of an object
torch	a small electric light
translucent	some light can pass through it
transparent	a surface you can see through

Data Handling

Use a table to record the results of the effect distance has on the length of a shadow (continuous data).