

# Light Knowledge Organiser

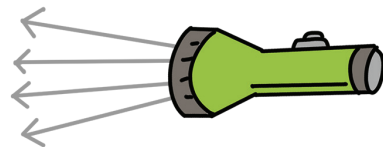
## Light sources

A **light source** makes light. The **Sun** and other **stars**, **fires**, **torches** and **lamps** all make their own light, so they are examples of sources of light.

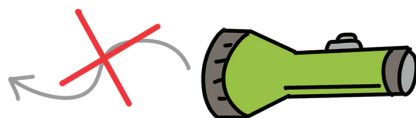


## Travelling light

Light travels very fast in **straight lines** called **light rays**. Even though light travels in straight lines, it travels in **different directions**.



Light rays from a torch travel in different directions but **always in straight lines**.

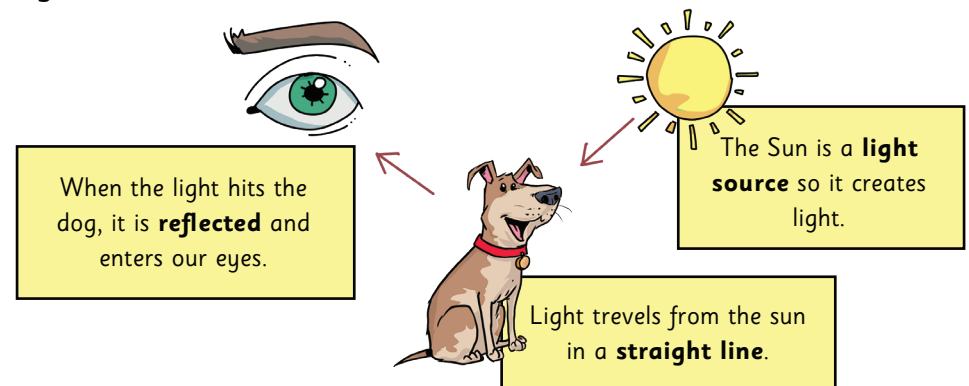


## Reflective light

We can see things because light is **reflected**. Some materials reflect light better than others.

Light travels in straight lines. When light from an object is reflected by a surface, it changes direction.

**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**.

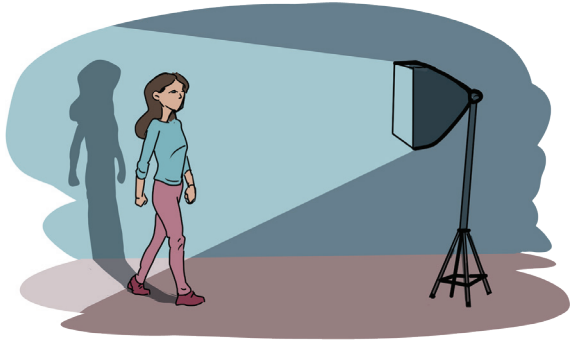


When light hits an object, it is **reflected** (bounces off) and enters our eyes. This is how we see the object.

We need **light sources** to be able to see; otherwise, there is no light to reflect off surfaces and into our eyes. This is why we cannot see in the dark.

# Shadows

A **shadow** is made when an **object blocks light**. A shadow is a **dark area** or **shape** caused by a solid object blocking the rays of light from a light source.

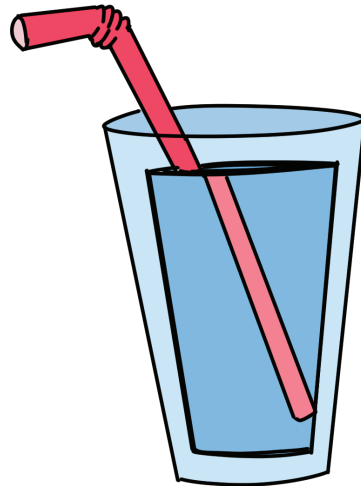


# Refraction

Light doesn't always travel in straight lines like it wants to; it can **change direction**.

Light rays change speed when they pass across the boundary between two states of matter, such as gas and liquid. This causes them to **change direction**, and this effect is called **refraction**.

An example of refraction is a straw in a glass of water.



# Key Vocabulary

**dark** - the absence of light

**direction** - the way that something is moving

**light** - a source of energy that allows you to see

**light ray** - an imaginary line that represents the line of light

**light beam** - a group of light rays

**light source** - something that makes light

**opaque** - cannot see through

**reflect** - bounces off or changes direction

**reflective** - something that reflects well

**refraction** - when light changes direction when going through the boundary of a state of matter

**see** - to perceive with the eyes

**shadow** - a dark area or shape produced by an object coming between rays of light and a surface

**transparent** - can see through

**translucent** - can see through partially, but not in detail