💡 LIGHT 💡

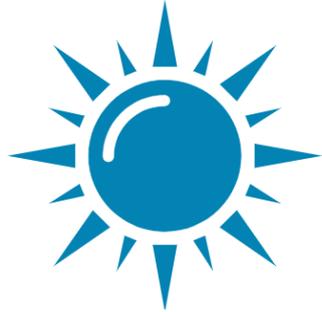## Recap

We need light to see. Darkness is when there is no light.

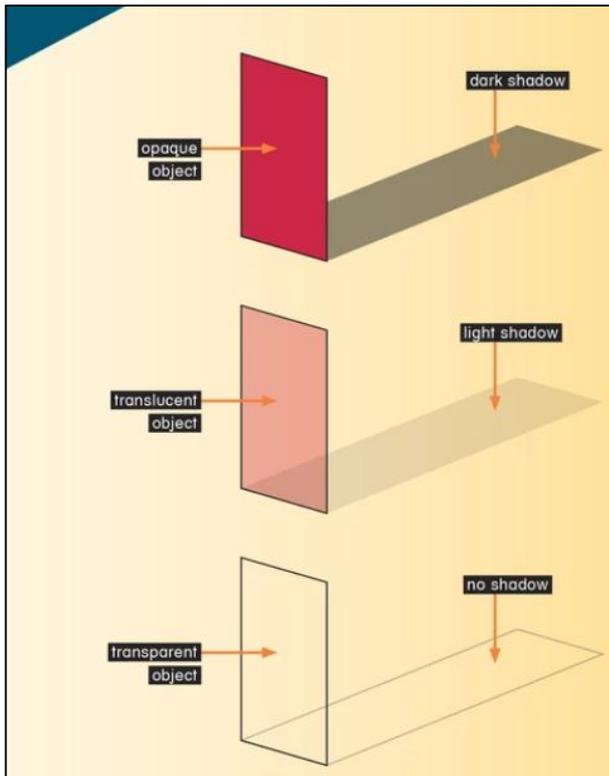Light is a form of **energy** that travels in a wave.

Light sources are object that make their own light (e.g. the Sun, a lamp).

Light can **reflect** off surfaces (e.g. mirrors)

Objects can be labelled as **transparent**, **translucent**, or **opaque**, depending on the amount of light that they let through.

Shadows are formed when light is blocked by an object.

How light travels


Light originates from **light sources**.

Light sources can be **natural** (e.g. The Sun, the stars) or **man-made** (e.g. street lamp, Christmas tree lights, glow stick, mobile phone, TV).

Light **waves** travel in a straight line from light sources.

We can see that light travels in straight lines when we shine a torch in a dark room, or when a ray of light comes through a window.

Shadows have the same shape as the objects that cast them.

How we see things
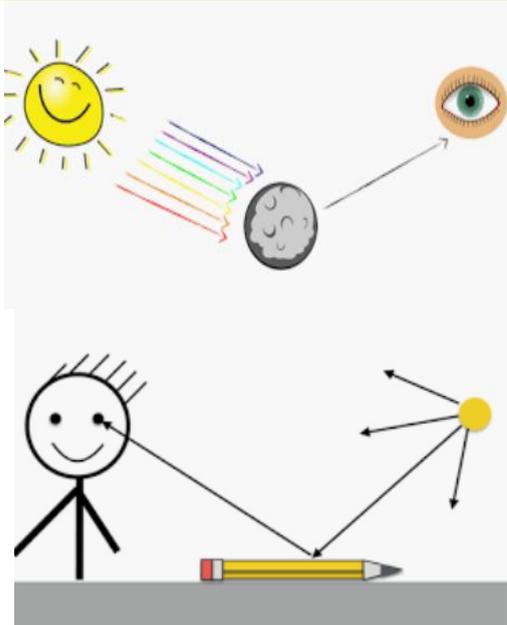
We see things because…

a.) they are a light source, sending light into our eyes, or

b.) light is reflected from a light source off them and into our eyes.

When the light enters our eyes, we see the object!

For example, we see The Sun because it is a light source, sending light into our eyes.

However, The Moon is not luminous (does not produce its own light). We see it because light from The Sun reflects off it into our eyes.

After light reflects off objects, it continues to travel in a straight line, but in a new direction.

Our eyes

Our eyes have a small window at the front called a **pupil**, through which light can enter. The pupil looks as though it is black because it is dark inside our eyes.
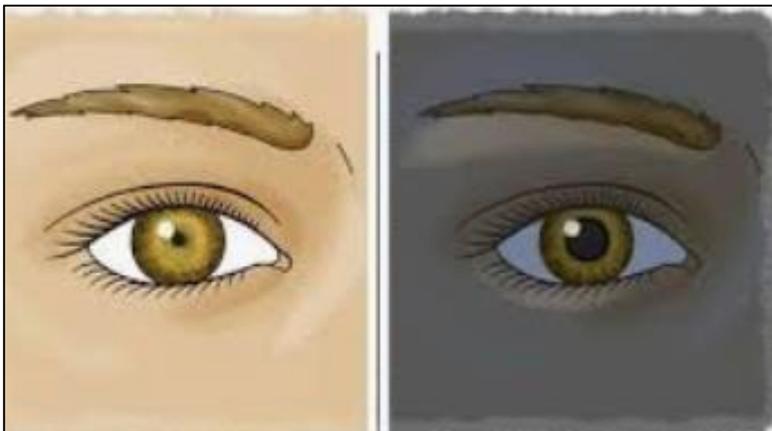
When it is dark, our pupils go larger, in order to let more light in so that we can see better. In bright lights, our pupils go smaller.

At the back of our eye is a sensitive sheet of nerves called a retina. They can detect light when it comes in through the pupil, and send messages to the brain about what we can see.

White light contains a range of colours that are either reflected or **absorbed** depending on an object's colour.

Light Spectrum

Red   Orange   Yellow   Green   Blue   Indigo   Violet