Welton Primary School—Science Knowledge Organiser

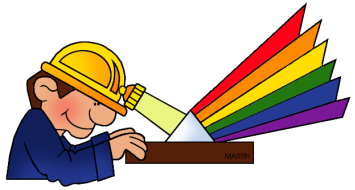
Year: 6	Light	Physics

What should I already know?

- I know that you need light to see things, that dark is the absence of light and that light is reflected from some surfaces.
- I recognise that light from the sun can be dangerous and there are ways to protect my eyes.
- I know that shadows are formed when light from a light source is blocked by an opaque object.
- I can find patterns in the way that the size of shadows change.

Vocabulary

reflect	Light sent back from a surface; it does not pass through it.
straight lines	Shortest distance between two points.
light rays	Straight path of light.



How We See Things

We see things because…

a. there is a light source sending light into our eyes, or

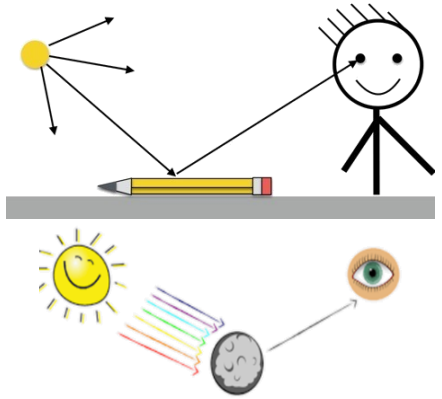
b. light is reflected from a light source off a surface and into our eyes.

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

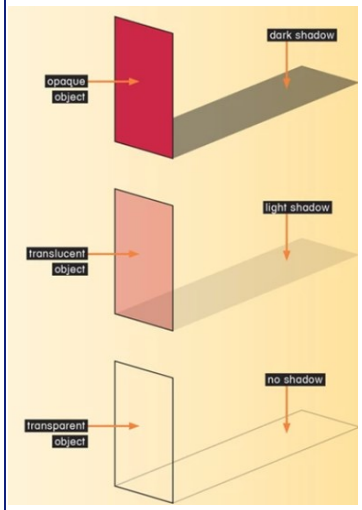
We see the Sun because it is a light source, sending light into our eyes.

The Moon 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



How Light Travels



Light originates from light sources.

Light sources can be natural (the sun, the stars) or man-made (street light, TV).

Light travels in a straight line from light sources.

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

When an object passes in front of a ray of light the light can be blocked, creating a shadow the same shape as the object.

Opaque objects let no light through, creating a dark shadow. Translucent objects let some light through creating a fainter shadow. Transparent objects let all light through creating no shadow.

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 get larger, in order to let more light in so that we can see better. In bright lights, our pupils get 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.