

**LIGHT**

KNOWLEDGE ORGANISER

Y6

**Vocab:** light source eye pupil reflection mirror shadow opaque transparent dark

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.

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| **What you should already know…** |  | **How Light Travels** |
|  -Light is a form of energy that makes it possible to see. Light is given off some objects (for example the Sun). Darkness is the absence of light.-Light can reflect off surfaces (e.g. mirrors). Light is absorbed by other materials.-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 opaque object.   |  |  |  | -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 travels 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.-When an object passes in front of a ray of light, the light can be blocked, creating a shadow.-Opaque objects let no light through (creating the darkest shadows), translucent objects let some light through (creating fainter shadows), transparent objects let all light through (no shadow).  |  |
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| **How We See Things** |  |
| -We see things because… a.) they are a light source, sending light into our eyes, orb.) 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.  |  |  |  |  |
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| Our Eyes |
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|  |  | -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. |  |
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Light Spectrum

Green

Indigo

Blue

Yellow

Orange

Violet

Red