



# My Science Learning Journey – Physics Light

## EYES

I can describe what I see, hear and feel whilst outside.

## YEAR 3

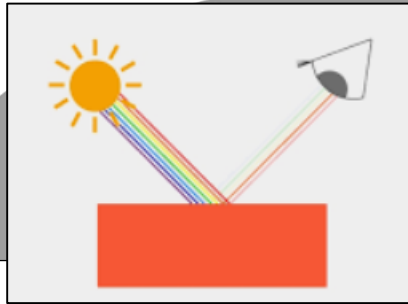
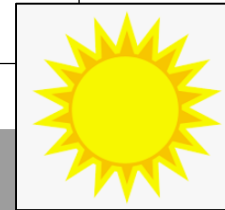
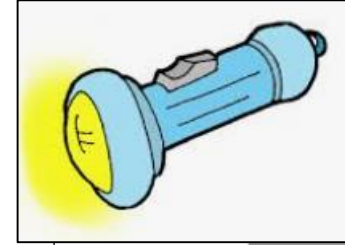
I can recognise that I need light in order to see things and that dark is the absence of light.

I can notice that light is reflected from surfaces.

I can recognise that light from the sun can be dangerous and that there are ways to protect our eyes.

I can recognise that shadows are formed when the light from a light source is blocked by an opaque object.

I can find patterns in the way that the sizes of shadows change.



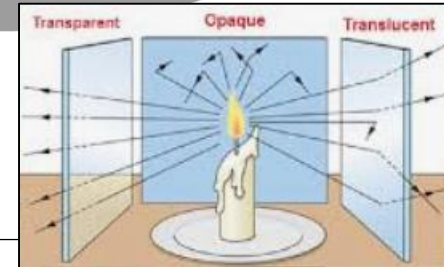
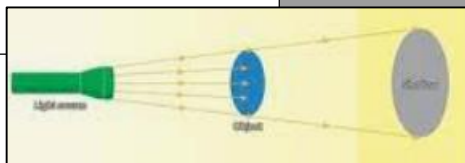
## YEAR 6

I can recognise that light appears to travel in straight lines.

I can use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.

I can explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.

I can use understanding that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.



## KEY STAGE 3

I can understand the similarities and differences between light waves and waves in matter.

I can understand that light waves travelling through a vacuum; speed of light.

I can understand the transmission of light through materials: absorption, diffuse scattering and specular reflection at a surface.

I can use a ray model to explain imaging in mirrors, the pinhole camera, the refraction of light and action of convex lens in focusing (qualitative); the human eye.

I can understand about light transferring energy from source to absorber leading to chemical and electrical effects; photo-sensitive material in the retina and in cameras.

I can understand colours and the different frequencies of light, white light and prisms; differential colour effects in absorption and diffuse reflection.