

Prior Learning

Light

Future learning

Recognise that they need light in order to see things and that dark is the absence of light. (Y3 - Light)

Notice that light is reflected from surfaces. (Y3 - Light)

Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. (Y3 - Light)

Recognise that shadows are formed when the light from a light source is blocked by an opaque object. (Y3 - Light)

Find patterns in the way that the size of shadows change. (Y3 - Light) Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. (Y5 - Properties and changes of materials)

Recognise that light appears to travel in straight lines.

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.

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.

Use the idea that light travels in straight lines to explain

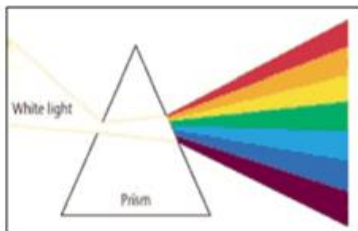
The similarities and differences between light waves and waves in matter.

(KS3)

Light waves travelling through a vacuum; speed of light. (KS3)

The transmission of light through materials: absorption, diffuse scattering and specular reflection at a surface. (KS3)

Use of ray model to explain imaging in mirrors, the pinhole camera, the refraction of light and action of convex



When white light passes through a glass prism, it is refracted. The light changes direction and is then dispersed (spread out) as it exits the prism. Depending on the shape of the prism and the angle of the light, we can often see the spectrum of colours.

Key facts

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| 1 | Light travels in a straight line |
| 2 | Light travels faster than sound. |
| 3 | A light year is a unit of measurement for distance. It is the distance light can travel in a year. |
| 4 | The size and shape of a shadow changes based on the distance and angle compared to the light source. |
| 5 | Darkness is caused by the absence of light. |
| 6 | The moon does not emit its own light – it reflects the sun. |
| 7 | Ultraviolet (UV) light is a type of radiation which you can't see but can be dangerous. UV rays can come from the sun. |

Vocabulary

Light, straight lines, light rays, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous