



Statutory Requirements:

- 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 why shadows have the same shape as the objects that cast them

Working Scientifically:

- Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- Using test results to make predictions to set up further comparative and fair tests
- Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations

Key Vocabulary:

- Opaque, translucent, transparent
- Shadow / absence of light
- Spectrum
- Reflection, refraction
- Light source
- Sunset, sunrise
- Photon, light wave
- Simple comparisons: dark, dull, bright, very bright
- Comparative vocabulary: brighter, duller, darker
- Superlative vocabulary: brightest, dulllest, darkest
- Photons

Key Knowledge:

Seeing an object: We see objects when light from a source reflects off of them and into our eyes. Lighter objects reflect more light than darker objects.

Formation of shadows: Light is reflected off an object. The area that the light is therefore unable to reach is called a shadow.

Apparent movement of the Sun: Where the Sun is seen in the sky depends upon the rotation of the Earth on its axis. How long we see the Sun each day depends upon the tilt of the Earth on its axis.

Refraction: Refraction happens when objects slow down the light beam, and slightly change its direction.

Photons: Light is a small particle called a photon, which travels in a wave pattern along a generally straight path.

Key Scientists



Thomas Young (1773 – 1829)
English physicist who developed the wave theory of light.