



Light

Year 3

Knowing More, Remembering More

Remembering previous learning

What does opaque mean? You cannot see through it.

What does translucent mean? You cannot see through it clearly.

What does transparent mean? You can see through it easily.

In this unit children will:

- Recognise that they need light in order to see things and that dark is the absence of light.
- Recognise that light from the Sun can be dangerous and that there are ways to protect their eyes.
- Notice that light is reflected from surfaces.
- Recognise that shadows are formed when the light from a light source is blocked by an opaque object.
- Find patterns in the way that the size of shadows change.

Working Scientifically:

- 3.1 Ask questions and understand there are different enquiry types they could use to answer them.
- 3.3 Make relevant predictions.
- 3.4 Identify what they will change, observe and keep the same.
- 3.5 With support, set up simple practical enquiries.
- 3.6 Begin to use scientific equipment to make observations.
- 3.8 Gather and record data in different ways to help answer questions.
- 3.9 Recording findings using simple scientific language, drawings, labelled diagrams, bar charts, and tables.
- 3.12 Use results, findings or observations to answer questions.
- 3.13 Make simple conclusions.

Key Vocabulary:

- light
- eyes
- light sources
 - natural light sources
 - artificial light sources
- sun
- sunglasses
- protect
- reflection
- shiny
- dull
- opaque
- translucent
- transparent
- shadow
- independent variable
- dependent variable
- controlled variables
- distance
- conclusion
- evaluation

Key Learning Steps:

1. Light sources
2. The sun
3. How we see
4. Shadows
5. Opaque, translucent or transparent?
6. Plan - shadow experiment.
7. Investigate - shadow experiment.
8. Evaluate - shadow experiment.

Key Scientists:



Classic

James Clerk Maxwell (1831- 1879)
Scottish physicist, whose work led to many modern-day inventions.



Contemporary

Charles K. Kao (1933- 2018)

The 'godfather of broadband'; pioneered research into passing light through glass fibres, leading to fibre optic cables being used for telecommunications.

Knowing More, Remembering More

Knowing more in Y3

What is a light source? An object that gives out light.

What is light needed for? Light is needed to see. Without light, we cannot see anything.

Why is the sun important? The sun is a light source. Without it, living things would not be able to live and grow on the Earth.

Name two ways that we protect our eyes from the sun. Do not look directly at the sun and wear sunglasses in bright light.

How does light travel? Light travels in straight lines from its source.

How do we see? Light travels from its source, to the object and is reflected into our eyes.

What is a shadow? Shadows are formed when the light from an object is blocked by an object.

What does opaque mean? Opaque materials do not let light pass through them, they block it.

What does translucent mean? Translucent materials allow some light to pass through them but do not form clear shadows.

What does transparent mean? Transparent materials allow light to pass through them easily.

The closer an object to a light source, the _____ the shadow it produces.