



Light

Statutory Requirements:

- 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:

- Identifying differences, similarities or changes related to simple scientific ideas and processes.
- Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.
- Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.
- Asking relevant questions and using different types of scientific enquiries to answer them.
- Setting up simple practical enquiries, comparative and fair tests.
- Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.

Key Vocabulary:

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

Key Scientists:



Classic

James Clerk Maxwell
(1831- 1879)

Scottish physicist, whose work led to many modern-day inventions. Albert Einstein said that 'his work changed the world forever'.



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.

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.