



Light

Why do we need light?

Physics

Lesson sequence

Lesson 1: Identify the difference between light sources and non-light sources

Lesson 2: Explore the light that comes from the sun and how to stay safe

Lesson 3: Explore materials which are reflective

Lesson 4: Discover how shadows are formed

Lesson 5: Investigate how shadows change throughout the day

Lesson 6: Investigate how you can change the size of a shadow

End of unit quiz



Enquiry Types

Careers connected to forces and magnets:
Optometrist, Optic scientists, lighting engineer.



Concept Links/Prior Knowledge

This is the first time you have been introduced to light as a unit of work in science. You will have some prior experiences with light and dark and day and night from EYFS/Reception, where you will have been able to explore it through your play.

You will make links to your prior learning of everyday materials from Key Stage 1 during lesson 3.

Through the 4 lessons, you will build on scientific knowledge and skills that has already been taught to you, such as reporting on your findings from investigations, using a range of equipment, making systematic observations and taking accurate measurements using standard units.

Sticky learning

New Knowledge

- I know that light is needed in order to see things and that dark is the absence of light.*
- I know that light is reflected from surfaces.*
- I know how light behaves when reflected off different types of reflective surfaces.*
- I know that light from the sun can be dangerous and that there are ways to protect my eyes.*
- I know 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 size of shadows change.*

Skills

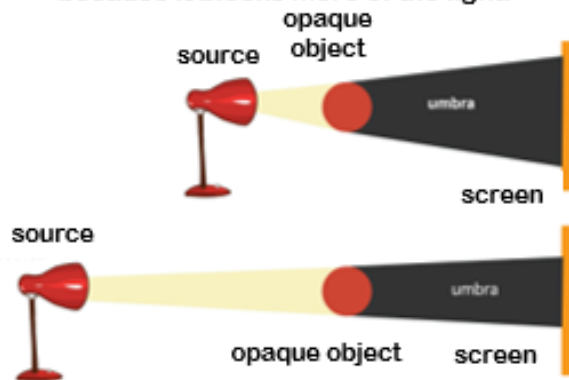
I can sort, group and classify explaining my reasoning
I can make careful observations and, where appropriate, taking accurate measurements using standard units.
I can report findings from enquiries in a variety of ways (e.g. Oral and written explanations, displays or presentations of results & conclusions).



Visual representations

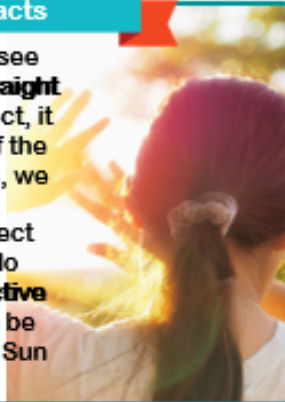
Size of a shadow changes

A shadow is caused when light is blocked by an opaque object. A shadow is larger when an object is closer to the light source. This is because it blocks more of the light.



Key Facts

We need light to be able to see things. Light travels in a **straight line**. When light hits an object, it is reflected (**bounces off**). If the reflected light hits our eyes, we can see the object. Some surfaces and materials reflect light well. Other materials do not reflect light well. **Reflective surfaces** and materials can be very useful. Remember the Sun can be dangerous.



Mirrors and reflection

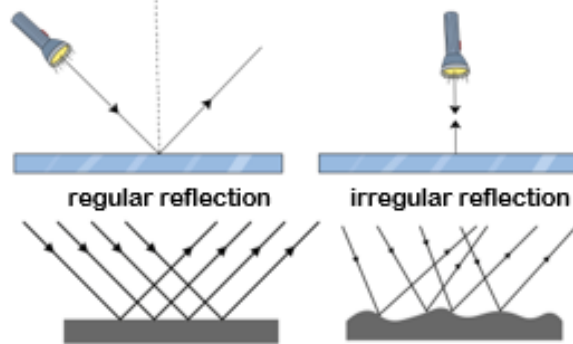
Mirrors reflect light very well, so they create a clear image. An image in a mirror appears to be reversed. For example, if you look in a mirror and raise your right hand, the mirror image appears to raise its left hand.



Light is reflected from surfaces

Light from the torch hits the object.

The light is reflected from the object.



Vocabulary revision (vocabulary I have been taught before)

light
dark
shadow
sort
test

New vocabulary I will learn (ROCKET WORDS)

reflect
vitamin D
Ultraviolet rays
Fluorescent
high visibility
ray
cast
position
shape
puppet