

## Scientist



Ibn al-Haytham  
(Mathematician and astronomer)

Patricia Bath  
(Ophthalmologist and inventor)

## Skills

I'm identifying differences and similarities like an astronomer.



I'm presenting my findings using my oracy skills like an optician.

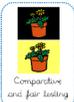


## Careers

Astronomer (studies space)

Optician (a doctor specialising in vision and eye health)

## Enquiries



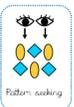
Which pair of sunglasses will be best at protecting our eyes?

Comparative and fair testing

Is the Sun the same brightness all day?



Observation over time



Are you more likely to have bad eye sight and to wear glasses if you are

Pattern seeking

How would you organise these light sources into natural and artificial



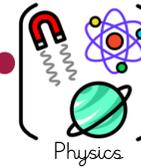
Identifying, classifying and grouping



How does the Sun make light?

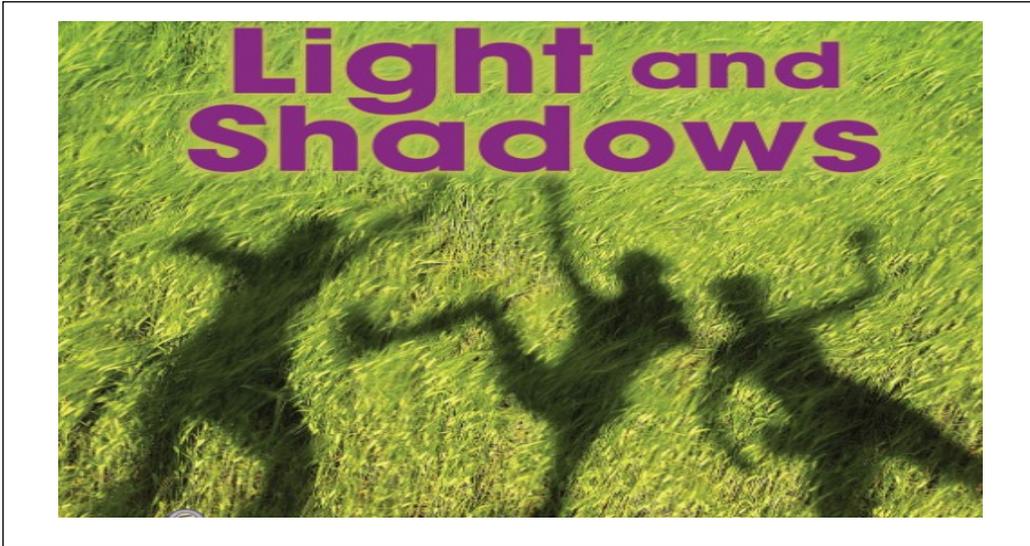
Research using secondary sources

## Main idea



Physics

Pupils will explore what happens when light reflects off a mirror or other reflective surfaces. They will learn about why it is important to protect their eyes from bright lights. They will look for, and measure, shadows and find out how they are formed and what might cause the shadows to change .



## Key Learning

- Recognise that they need light in order to see things and that dark is the absence of light
- Notice that light is reflected from surfaces
- Recognise that light from the sun can be dangerous and that there are ways to protect their eyes
- 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.

## What you should already know

That there are four seasons in the United Kingdom, and these are linked to different weather changes such as the amount of sunlight and changes in temperature. Children will have begun to think about how these changes might happen, such as the concept that the earth is rotating and this affects the amount of sunlight we may get.

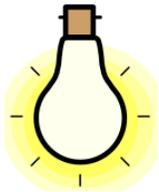
## What comes next?

Year 5 - Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.

## Key vocabulary

Light	Mirror
Light source	Torch
Illuminate	Darkness
Light beam	
Shadow	
Opaque	
Translucent	
Transparent	
Reflection	

# Year 3: Light



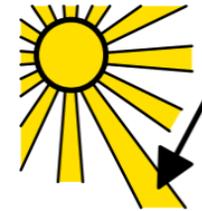
Light: a type of energy that makes it possible for us to see the world around us



Light source: An object that emits (gives out) light.



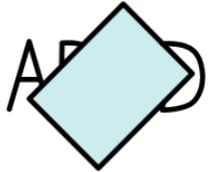
Illuminate: A verb meaning to light up. E.g. A flash of light illuminated the house.



Light beam: A projection of light energy radiating from a light source.



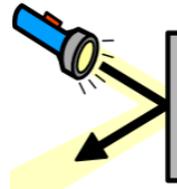
Shadow: An area of darkness produced by an object coming between rays of light and a surface.



Opaque : A material you are not able to see through (not transparent).



Translucent : A material allowing light, but not detailed shapes, to pass through (semi-transparent).



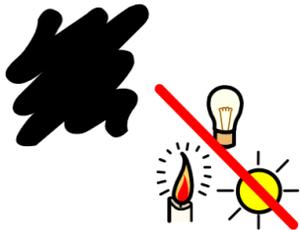
Reflection: When light hits the surface of an object and then that light travels to our eyes so we can see.



Mirror: A surface, typically glass coated with metal, which reflects a clear image.

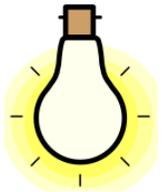


Torch: A portable battery-powered electric lamp.



Darkness: the absence (when there isn't any) of light in a place.

Year 3: Light



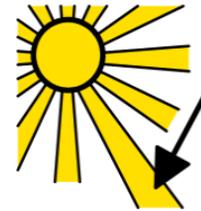
Light



Light source



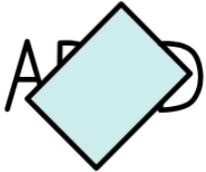
Illuminate



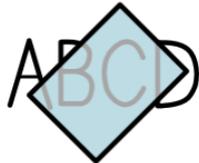
Light beam



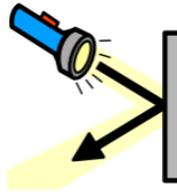
Shadow



Opaque



Translucent



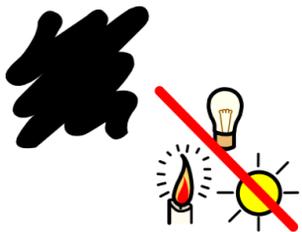
Reflection



Mirror



Torch



Darkness