

Light sources can be both natural and man-made.

A lens is a piece of transparent glass or plastic that bends light.

Light only travels in straight lines.



## Lesson Sequence

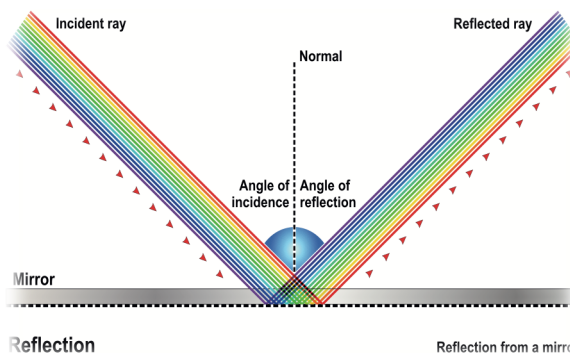


## ROCKET WORDS

Learn these words and their definitions.

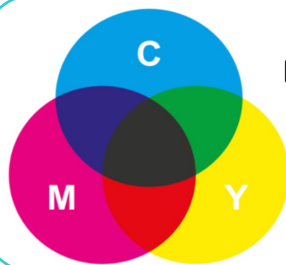
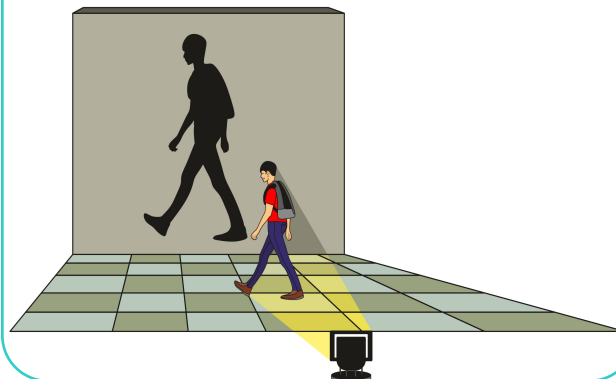
| Key Word            | Definition   |
|---------------------|--|
| transparent         | An object or material that allows light to pass through easily.                |
| opaque              | An object or material which doesn't allow light through.                       |
| translucent         | An object or material which allows some light to pass and scatters light rays. |
| magnify             | To make an image larger.   |
| angle of incidence  | The angle made by a light ray as it strikes a mirror.                          |
| angle of reflection | The angle made by a light ray as it reflects off a mirror.                     |
| lens                | A transparent material which changes the direction of movement of light.       |
| refraction          | The action of distorting an image by viewing through a medium.                 |

### Angles of Incidence and Reflection



### How a shadow forms

Shadow is a dark area formed when an object blocks light from the light source



Light filters can be used to mix or change the colour of the light.

### FACTOIDS: Can you find out more?

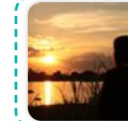
Q1. How does a lens work?  
A1. They bend rays of light as they pass through so they can change path or direction.

Q2. What colours is light made up from?

Light is made up of all the colours of the spectrum / rainbow. The colour of the light you see depends on its wavelength.

Q3. How does a telescope work?

They have two lenses (one large and one small) which reflect light rather than bending it.



1. Explain how light travels in a straight line and shadows are formed



2. Compare materials of different transparencies



3. Describe how lenses can be used



4. Show white light is a mixture



5. Explain how water can bend light



6. Investigate light colour mixing

## Unit: Light

This unit will help you understand how light travels, as well as exploring how the path and colour of light can change. A key focus is lenses, and how lenses in our eye, in cameras and in can change the way we view an object.

It is important to think about how lenses are used in research and industry, which is why many of the activities in this unit will help you build your own lenses or observe objects through a lens. We take light for granted, but it is amazing how it moves, reflects and change .

