

# Science • Light



## Crucial Knowledge

- Light travels in straight lines.
- Everything that we can see is either a light source or something that is reflecting light from a light source into our eyes.
- As objects move towards a light source, the size of the shadow increases.
- The amount of natural light we experience changes over the course of a day.
- When light passes from one medium to another (e.g. from air to water), it changes direction; this is called refraction and happens because light travels at different speeds in different media.
- When light reflects off an object, the angle of incidence is equal to the angle of reflection.



## Key Vocabulary

**Light Source:** An object that makes its own light.

**Reflection:** When light bounces off a surface, changing the direction of a ray of light.

**Refraction:** This is when light bends as it passes from one medium to another. For example, light bends when it moves from air into water.

**Translucent:** Describes objects that let some light through but scatters the light so we can't see through them properly.

**Medium:** The substance through which something travels.

**Spectrum:** The group of colours that a ray of light can be separated into.

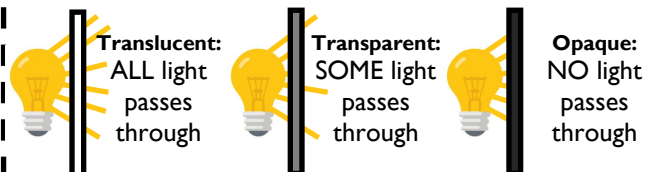
**Periscope:** An optical instrument which uses mirrors to see things that would otherwise be blocked from view.



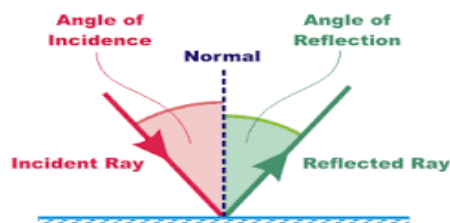
## Diagrams / Images



### How We See: Light Reflecting Off Objects



### Translucent, Transparent & Opaque



### Angles



### Light Refraction: White Light through Prism



## Important People



**Ibn al-Haytham**  
'the father of modern optics', a physicist of the Islamic Golden Age

**Patricia Bath**  
Invented a laser probe to treat cataracts.



**Lewis Howard Latimer**  
Invented a light bulb with carbon filament improving Thomas Edison's original light bulb which used a paper filament and burnt out quickly.

### We Are Building Our Knowledge From

- Light (Y3)