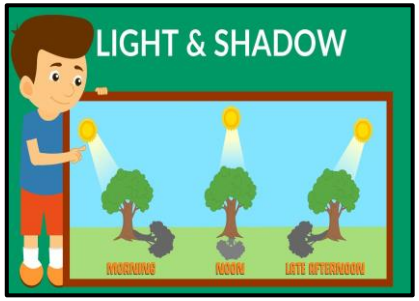
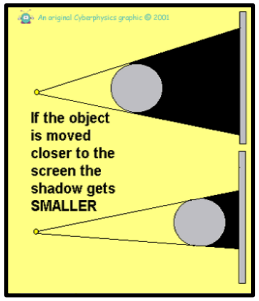
Y6 - What are Shadows?

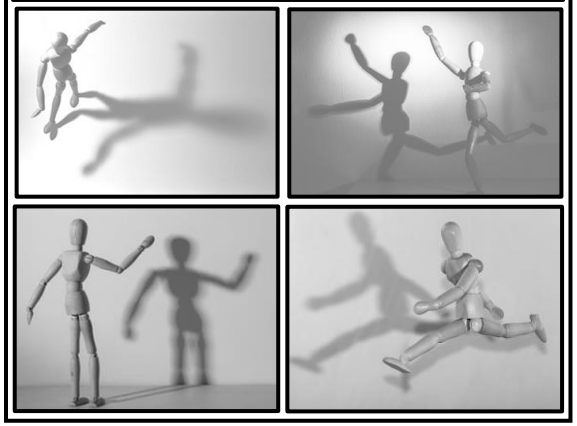
Vocabulary and Definitions

silhouette	a dark shape seen against a light surface
shadow	an area of darkness caused by light being blocked
shading	a slight darkness caused by something blocking direct light
light	the brightness that comes from a light source
dark	with little or no light
shape	physical form of appearance of something
form	the shape or appearance of something
cast	to send light or shadow in a particular direction
block	to prevent movement through something
compare	to examine the difference between two or more things
sketch	a simple, quickly made drawing





Mannequin Shadows



Planning an Experiment

Scientific Question	something that is testable
Equipment	objects used in a scientific test or experiment
Method	the process of establishing facts through testing and experimentation.
Prediction / Hypothesis	what you think will happen
Fair test	a controlled investigation used to answer a question in a scientific way.
Results / Observation	the outcome or conclusions of scientific research, experiments, or observations.
Conclusion	sums up what has been found out during an investigation

What knowledge do I already have?

- I can describe what artists do
- I can describe where darkness comes from
- I can be creative
- I can name a transparent, translucent and an opaque object
- I know that the sun is a source of light and energy
- I know how a shadow is formed
- I know we need light to see things

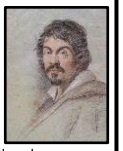
Artists

Kumi Yamashita

Kumi Yamashita is best known for her light and shadow sculptures constructed from everyday objects.

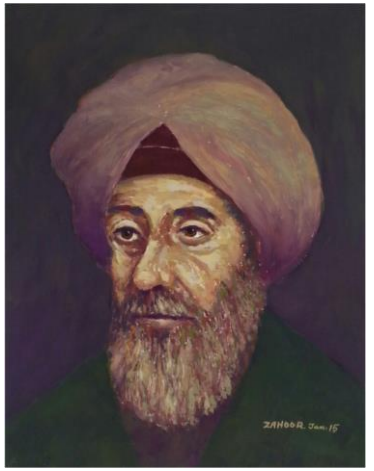
Caravaggio

Caravaggio's paintings are known for their realism and use of strong contrasts of light and dark.



Ibn Al-Haytham

Ibn al-Haytham was a scientist, mathematician and astronomer who lived back in 965 AD. He was a pioneer of modern optics. He found out that we see because light bounces off objects into our eyes. His theory found that light travels in straight lines, and he proved this by carrying out an experiment with two lanterns.

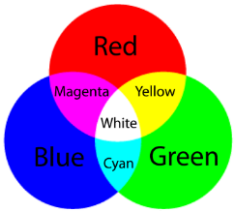


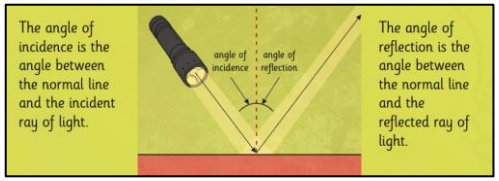
Y6 - What are Shadows?

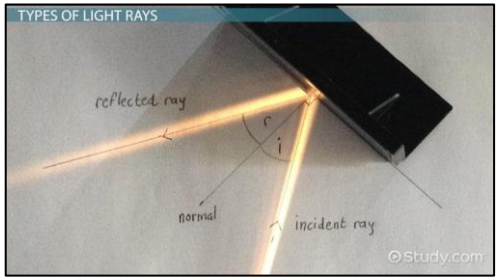
Vocabulary and Definitions

opaque	prevents light from travelling through
translucent	allows some light through
transparent	allows all light through
reflection	the image of something in a mirror or other reflective surface
refraction	how light is caused to change direction or separate
light	the brightness that comes from a light source
shadow	the brightness that comes from a light source
periscope	a long vertical tube containing a set of mirrors that gives you a view of what is above you when you look through the bottom of the tube
source	the place something comes from or starts at
dark	with little or no light
spectrum	the set of colours into which a beam of light can be separated

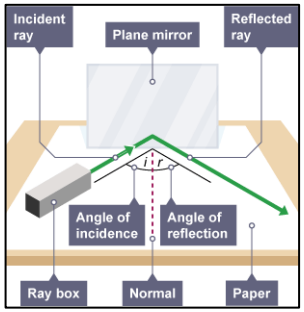
Primary Light Colours





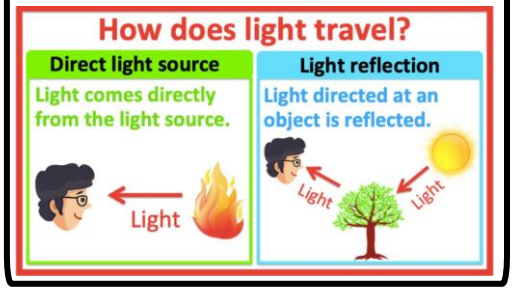


Angular Reflection



How Light Travels

Light from the sun travels in a straight line and hits the tree. The light ray is then reflected off the tree and travels in a straight line to the girl's eye, enabling her to see the tree.



Natural Light Sources


firefly


sun


lightning


glow worm

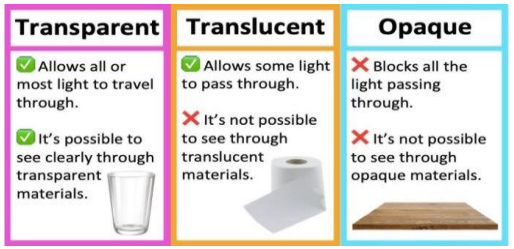
Man-made Light Sources


mobile phone


candle


television


torch

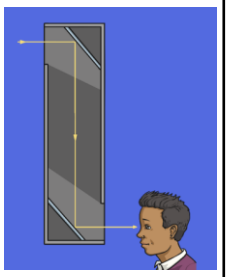


Refraction

This is when light bends as it passes from one medium to another. E.g. Light bends when it moves from air into water.

Reflecting Light

A periscope is a device for seeing over or around something. A simple periscope is a tube with a mirror at either end. The mirrors need to be positioned so that the light is reflected from the mirror at one end, down the tube to the other mirror, then out of the tube to the observer's eyes.



Ultraviolet

light at the purple end of the spectrum that cannot be seen by humans

Infrared

light at the red end of the spectrum that cannot be seen and gives out heat