



1. To investigate different light sources.	2. The recognise that light from the sun can be dangerous.	3. To recognise how we use light to see.	4. To explore the concept of shadows.	5. To identify how opaque, translucent and transparent materials can affect shadows.	6. To plan a shadow experiment and predict the outcome.	7. To carry out the shadow experiment.	8. To evaluate the shadow experiment.
--	--	--	---------------------------------------	--	---	--	---------------------------------------

light	Energy that is needed to see	light
eyes	The parts of the body that animals see with	eyes
light sources	Objects that give out light	light sources
natural light sources	Objects in nature that give out light	natural light sources
artificial light sources	Made by humans	artificial light sources
sun	Our nearest star which gives out energy as heat and light	sun
sunglasses	Glasses which protect eyes from sunlight	sunglasses
protect	To keep something safe	protect
reflection	The return of light from a material or surface	reflection
shiny	A surface that reflects most light	shiny
dull	A surface that does not reflect much light	dull
opaque	An object or material that does not allow any light to pass through	opaque
translucent	An object or material that slows some light to pass through it	translucent
shadow	A dark area caused by an object blocking a source of light	shadow
independent variable	(what will change) – the distance the object is from the light source	independent variable
dependant variable	(what will be measured) – the size of the shadow	dependant variable
controlled variable	(what is kept the same) – the light source, the object used to create the shadow, the distance from the object to the wall.	controlled variable
distance	How far two points are away from each other	distance
conclusion	what has been found out during an investigation based on measurements and observations	conclusion
evaluation	to consider the quality of the results and suggest improvements to the investigation	evaluation

Reflection
Reflection occurs when light bounces off an object.

How Do We See?
People can see when light reflected from objects enters the eye. If there is no light to be reflected off objects, the objects will not be seen.

Where Does Light Come From?
Light is emitted by a light source.

How Does Light Travel?
Light is needed to see. Light travels from light sources in straight lines.

Mirrors
Mirrors are not light sources. They reflect light because they are shiny. Light bounces off their surfaces.

Shadows
A shadow is a dark area behind an object. When light reaches an object, the object blocks its path. This leaves shadow behind the object.

Sun Protection
Light from the sun can hurt and damage our eyes and can also burn our skin. We can protect ourselves by:

- never looking directly at the sun;
- wearing sunglasses;
- wearing long clothes and a sun hat;
- using sun cream with a strong SPF.

Light and Materials
Objects made of opaque materials do not allow light to travel through them.
Objects made of translucent materials allow some light to travel through them.
Objects made of transparent materials allow almost all light to travel through them.

Shiny or Dull?
Different surfaces reflect light in different ways. When light rays hit a rough surface, they scatter. You do not get a clear reflection. When light rays hit a smooth surface, they bounce off uniformly and we see a reflected image.