

**Phase:** 3/4

**Subject:** Science

**Focus:** Light

**Term:** Summer

## What I should already know?

Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. Describe the simple physical properties of a variety of everyday materi-

### Vocabulary

light	A form of energy that travels in a wave from a source.
light source	An object that makes its own light.
dark	Dark is the absence of light.
transparent	Allows light to pass through so objects behind can be seen clearly.
translucent	Semi-transparent, lets some light through but not so objects behind can be seen clearly.
opaque	Not to be seen through, not transparent
shiny	Reflects light
matt	Dull and flat, without shine.
shadow	A dark area or shape caused by something blocking a source of light.
reflect	To bounce off.
reflection	The process where light hits the surface of an object and bounces back into our eyes.
reflective	A word to describe something which reflects light well.

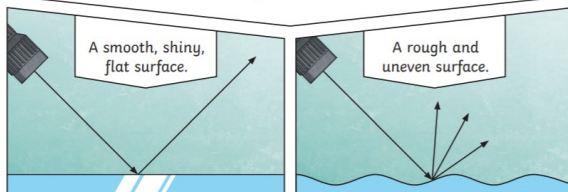
## Knowledge

- We see objects because our eyes can sense light.
- Dark is the absence of light. We cannot see anything in complete darkness.
- Some objects, for example, the sun, light bulbs and candles are sources of light.
- Objects are easier to see if there is more light.
- Some surfaces reflect light. Objects are easier to see when there is less light if they are reflective.
- The light from the sun can damage our eyes and therefore we should not look directly at the sun and can protect our eyes by wearing sunglasses or sunhats in bright light.
- Shadows are formed on a surface when an opaque or translucent object is between a light source and the surface and blocks some of the light. The size of the shadow depends on the position of the source, object

## By the end of the unit I should know..

- Recognise that I 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 my 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 .

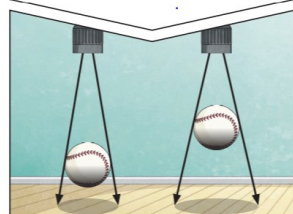
The surfaces that reflect **light** best are smooth, shiny and flat.



**opaque**      **translucent**      **transparent**



A **shadow** is caused when **light** is blocked by an **opaque** object. A **shadow** is larger when an object is closer to the **light** source. This is because it blocks more of the **light**.



When the **light** source is directly above the object, the **shadow** will be directly underneath.

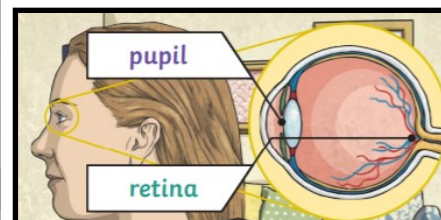


When a **light** source is to one side of an object, the **shadow** will appear on the opposite side. The **shadow** will also be longer.



The **pupils**

control the amount of **light** entering the eyes. If too much **light** enters, then it can damage the **retina**. To help protect the eyes, you can wear a hat with a wide brim and sunglasses with a UV rating.



<u>Question 1 - Which of these is not a source of light?</u>	<u>Start of Unit</u>	<u>End of Unit</u>
Candle		
Moon		
Sun		
Don't know		

<u>Question 2 - Our eyes 'get used' to the dark</u>	<u>Start of Unit</u>	<u>End of Unit</u>
True		
False		
Don't know		

<u>Question 3 - How can we protect our eyes?</u>
Start of unit
End of unit

<u>Question 4— Which part of your eye can be damaged if too much light is let in?</u>	<u>Start of Unit</u>	<u>End of Unit</u>
The pupil		
The iris		
The retina		
Don't know		

<u>Question 5— What best describes translucent?</u>	<u>Start of Unit</u>	<u>End of Unit</u>
Semi-transparent, lets some light through but not so objects behind can be seen clearly.		
Allows light to pass through so objects behind can be seen. clearly		
The absence of light		
Don't know		

<u>Question 6— How is a shadow formed?</u>
Start of unit:
End of unit:

### What I would like to find out?

--

### Answers to my questions...

--