

What I already know:

Light is needed in order to see things and that dark is the absence of light. Light is reflected from some surfaces. Light from the sun can be dangerous to look at. How shadows are formed and can change shape

Learning Journey

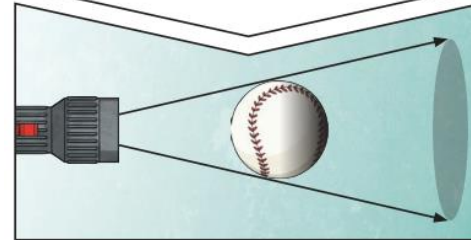
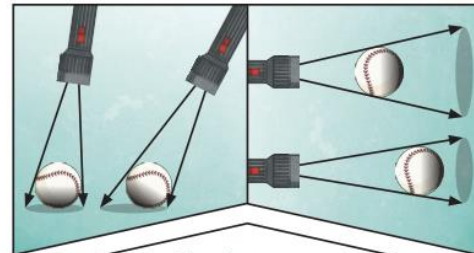
- Sc6/4.1a recognise that light appears to travel in straight lines
- Sc6/4.1b use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye
- Sc6/4.1c explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes
- Sc6/4.1d use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them

Key Question:

Why do shadows take on the same shape as the object that casts them?

Powerful knowledge:

A **shadow** is always the same shape as the object that casts it. This is because when an **opaque** object is in the path of **light** travelling from a **light source**, it will block the **light** rays that hit it, while the rest of the **light** can continue travelling.



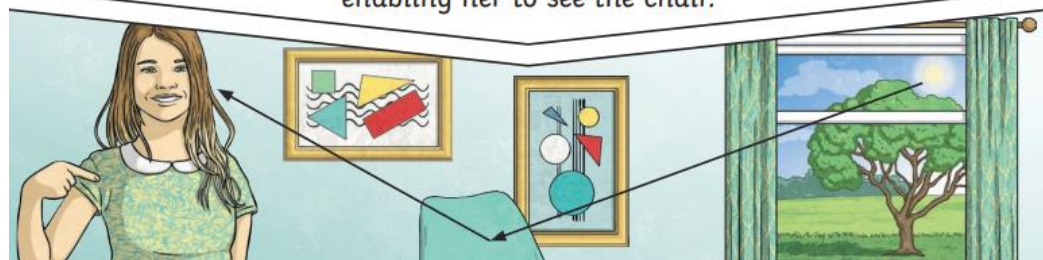
Shadows can also be elongated or shortened depending on the angle of the **light source**. A **shadow** is also larger when the object is closer to the **light source**. This is because it blocks more of the **light**.

Key Vocabulary:

Light	A form of energy that travels in a wave from a source.
Light source	An object that makes its own light.
Reflection	Reflection is when light bounces off a surface, changing the direction of a ray of light.
Visible spectrum	Light that is visible to the human eye, it is made up of the colour spectrum.
Shadow	An area of darkness created where light has been blocked.
transparent	A material that lets light travel through it resulting in seeing an object clearly through it.
Translucent	Materials that let some light through but it scatters the light so objects cannot be seen clearly.
Opaque	Materials which do not let light pass through.

We need **light** to be able to see things. **Light** waves travel out from sources of **light** in straight lines. These lines are often called rays or beams of **light**.

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



Visible light spectrum diagram:

