



Knowledge Organiser	Subject: Science	Topic: Seeing Light	Year: 6
----------------------------	-------------------------	----------------------------	----------------

Key Knowledge

Light appears to travel in straight lines, and we see objects when light from them goes into our eyes. The light may come directly from light sources, but for other objects some light must be reflected from the object into our eyes for the object to be seen. Objects that block light (are not fully transparent) will cause shadows. Because light travels in straight lines the shape of the shadow will be the same as the outline shape of the object.

Common misconceptions

- We see objects because light travels from our eyes to the object.

Key Learning

- Recognise that light appears to travel in straight lines.
- 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.
- 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.
- Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

Disciplinary Skills

- Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
- Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
- Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
- Using test results to make predictions to set up further comparative and fair tests.

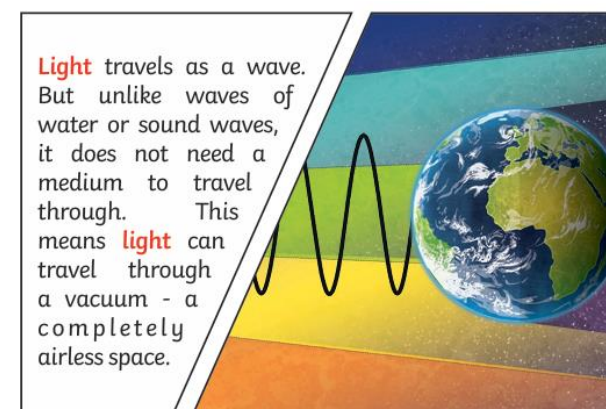
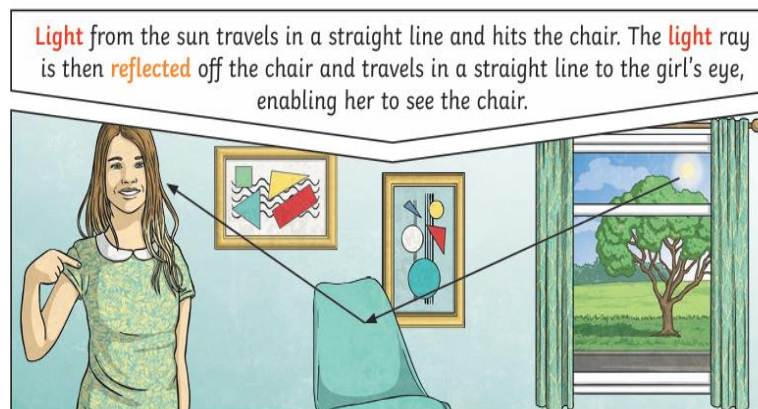
Key Concepts

Light Travels in Straight Lines	How We See Objects	Shadows and Their Shapes
Light moves in straight lines from a source. This explains why shadows and reflections follow predictable patterns.	We see objects when light enters our eyes. Light may come directly from a source or be reflected off objects into our eyes.	Objects that block light create shadows. Because light travels in straight lines, the shape of a shadow matches the outline of the object blocking the light.

The Big Question

How does light enable us to see?

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.
Incident ray	A ray of light that hits a surface.
Reflected ray	A ray of light that has bounced back after hitting a surface.



Linking Thinking Across Our Learning Journey						
Early Years	Year One	Year Two	Year Three	Year Four	Year Five	Year Six
Light Explore how things work. Talk about the differences in materials and changes we notice. Describe what we see, hear and feel whilst outside.	Animals Including Humans Identify which part of the body is associated with each sense (sight). Materials Describe the simple physical properties of a variety of everyday materials.		Light and Shadow Recognise that they 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 their 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.			Seeing Light