



# Year 6 Light

## How Light Travels

## **Learning Objective**

To understand that light cannot travel through some materials and that this creates a shadow.

## **Success Criteria**

- To know that light travels from a source.
- To understand that objects let different amounts of light pass through them.
- To know different types of light sources.

# Recap

Light originates from light sources.

Can you sort these objects into light sources and non-light sources?

Mirror

Pencil

Candle (lit)

Television screen (turned on)

Stars

Moon

Earth

Sun

Light source	Non-light source

# Recap

The moon is not a light source because it does not make its own light. Instead, it reflects light from the sun, which is a light source.



Objects that reflect light from light sources are sometimes called secondary light sources.

# Recap

Light sources can be natural or man-made.

With a partner, can you make a list of natural light sources?

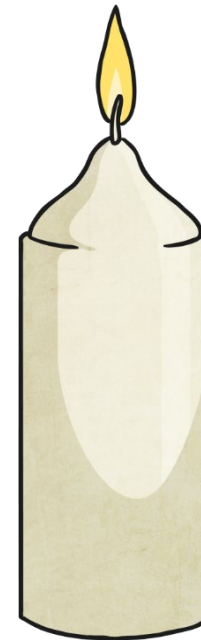
Why do they produce light?



# How does light travel?

Here are some pictures of light sources.

Can you draw one of them and then draw a diagram to show how light travels from it?



# How Does Light Travel?

Light travels in a straight line from a light source. We can see this if we shine a torch across a dark room.



The Peace Tower in Iceland sends a high powered beam of light into the night sky.

# How Does Light Travel?

When an object passes in front of a beam of light, the light can be blocked, making a shadow.



- Opaque objects let no light through.
- Translucent objects let some light through.
- Transparent objects let all light through.

# Investigate

We are going to find out more about light and shadow by using several different investigations. You will carry out these investigations in small groups.

## We will investigate:

1. How does an object's distance from the light source affect its shadow?
2. How does the angle at which the light source shines on an object affect its shadow?
3. How does an object's distance from the wall affect its shadow?
4. How does the translucency of an object affect its shadow?

# Investigate

## Your investigation needs:

- Title
- Equipment list
- What you are going to change (a variable)
- What you are going to keep the same
- Prediction
- Results
- Conclusion



# Plenary

It is important for scientists to share their findings so that people can learn from their experiments.

## Things to share are....

- What your group were investigating.
- What you predicted would happen.
- What you found out.

