

### Objectives

By the end of this unit the children should:

- Know that light is a form of energy.
- Be able to identify a range of light sources and light reflectors.
- Understand that light sources emit light.
- Know that we are able to see when light enters our eyes.
- Understand that we can see objects because they either emit or reflect light.
- Understand that light reflectors do not emit light; they reflect it.

### Key Teaching Points

We are able to see because light rays reflect off objects and into our eyes. Everything we see reflects light, but not everything is a reflector. Reflectors are materials that reflect light well, such as mirrors, water and aluminium foil.

### Starter Activity (10 minutes)


Write the word “**LIGHT**” in the middle of a large sheet of paper or whiteboard.

**Ask:** What do you know about light?

Write or draw each answer. Similar ideas can be connected.

Note down any questions or uncertainties the children discuss. You can return to these during this or future lessons with corrected ideas or answers.

### Main Activity (40 minutes)


 **Play the film *What is light?***

**Ask:**

1) What is light? *A form of energy that enables us to see.*

2) What does emit mean? *Give out.*

3) What is reflection? *Light bouncing off objects.* **Note:** Children may talk about mirrors and water, which are reflectors. Explain that reflection happens all around us. We only see things when light is reflected off them.


 Organise the children into pairs. Give each pair a pen and a piece of paper. (A blank table is also provided in the lesson resources).

Ask the pairs to divide their paper into two parts. In one part the children should write a list of light sources. In the other part they should write a list of light reflectors.



### Main Activity continued...

After 5 minutes, stop the children and ask one or two pairs to share their lists with the class. This will help any children who may be struggling.

 After 5 more minutes of paired work, **play** the film **Light sources**.




#### Ask:

- 1) Can you name a light source? *Examples in the film: some animals, fires, torches, light bulbs and the Sun.*
- 2) Can you name a light reflector? *Examples in the film: the Moon, gemstones and mirrors.*

**Common misconception:** Some children may think the Moon is a light source because it can be seen at night. Although we can't see the Sun at night, its rays are able to reflect off the Moon. This means the Moon is a light reflector.

Ask the groups, in turn, to present their ideas about light sources and reflectors to the rest of the class.

#### Optional Extra

-  Ask the children to create an illustration to show how light enables us to see objects. You can demonstrate this first so they know what is expected.









#### Further Questions



- What is a power cut? *When no electricity is supplied. Usually this is temporary and due to a fault.*
- What light sources could be used if there was no electricity? *Candles, torches, fires.*
- Why do you think that emergency signs and guide strip lighting in aeroplanes need to work without electricity? *There may be no power supply, but it would be very important that passengers could still find their way out of the aeroplane.*

## Review (10 minutes)

Use one or more of the following films to conclude the lesson:

- 
**Play the film Clip.** 
- 
**Play the film Spot the...** 

(You can pause at **00:12** to give the children time to consider the images.)  
Clarify any misunderstandings.
- 
**Play the film True or false.** 

(You can pause at **00:15** and ask the children to vote.)
- 
 Finish the lesson by **playing** the film **Big reveal.** 

Ask the first child who identifies the Moon to explain why it is not a light source.