



We are learning to:

- Recognise that we 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 the eyes.
- Recognise that shadows are formed when the light from a light source is blocked by a solid object.
- Find patterns in the way that the sizes of shadows change.

WORKING SCIENTIFICALLY

- Set up simple practical enquiries, comparative and fair tests.
- Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment including thermometers and data loggers.
- Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
- Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions

OVERVIEW

Children work scientifically on a variety of quick challenges and longer tasks to learn about the wonders of light, including reflections and shadows.

PRIOR LEARNING

- they have some personal experience and ideas
- to draw upon.
- that shadows are dark and are similar in shape
- to the object forming them.

SHADOWS

- 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.



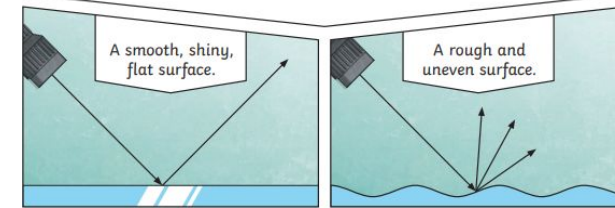
LIGHT

- We need light to be able to see things. Light travels in a straight line. When light hits an object, it is reflected (bounces off). If the reflected light hits our eyes, we can see the object. Some surfaces and materials reflect light well. Other materials do not reflect light well. Reflective surfaces and materials can be very useful.

MIRRORS

- Mirrors reflect light very well, so they create a clear image. An image in a mirror appears to be reversed. For example, if you look in a mirror and raise your right hand, the mirror image appears to raise its left hand.

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



LET'S THINK LIKE SCIENTISTS

- Can you name three sources of light?
- What causes darkness?
- What would life be like without light?
- What is the difference between a shadow and a reflection?

Why do you think the word ambulance is reversed?



Daylight turns to darkness because the Moon blocks the Sun and creates a giant shadow on the Earth.

LIGHT AND SHADOWS

Vocabulary

description: a statement that says what you see
dull: a surface that scatters light and does not look shiny.

explanation: a sentence (or sentences) giving a reason for something
light source: the place where light originates from.

mirror: a shiny polished surface.

observation: what we see happening in a scientific test.
opaque: not letting light pass through.

reflect: to change the direction of light using a shiny surface.

shadow: darkness caused by light being blocked.

shiny: surfaces that reflect lots of light.

translucent: letting some light through.

transparent: letting most or all light through.

Supermarket security teams set up curved mirrors to see around corners.