

Topic: Light

Phase: KS2

Strand: Physics

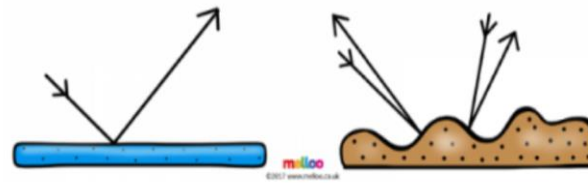
Key Knowledge

Light travels in a straight line. You need light to be able to see. Light can be from natural or man made sources.



Reflection

Light can be reflected. When light from an object is reflected by a surface it changes direction. It bounces off the surface at the same angle as it hits it. Smooth, shiny surfaces such as mirrors and polished metals reflect light well.



We are MANOR!
As Scientists we will ...

Manners

Develop a respect and understanding for the natural world, its people, animals and plants. Share ideas, celebrate good work, value others' contributions, or discussions and debates.

Aspiration

Learn by being challenged in a series of well-designed scientific enquiry and investigation tasks linked to meaningful contexts and develop a knowledge of scientists and careers to broaden our horizons. Be aspirational in developing scientific knowledge and conceptual understanding through biology, chemistry and physics.

Nurture

To recognise that we live in a wonderful world made up of many different people and living things. We will develop an appreciation and respect for the diverse world and environment in which we live, showing care and compassion for the environment around us.

Open-Mindedness

We will be open-minded so that we can conduct experiments or observe what is happening in order to see patterns that might emerge or to gain new knowledge. We will use our curiosity and learn to wonder why something behaves a certain way.

Resilience

Engage confidently with the science curriculum and learn that anything is possible and failure is not something to fear but to learn from. We will develop our scientific enquiry and investigation skills with patience and care, repeating investigations to check the accuracy of results.

What should I already know?

- That we can see because we have light.
- That it is dark when there is no light
- That we can see through materials that are transparent and we cannot see through materials that are opaque.
- That shadows can be made

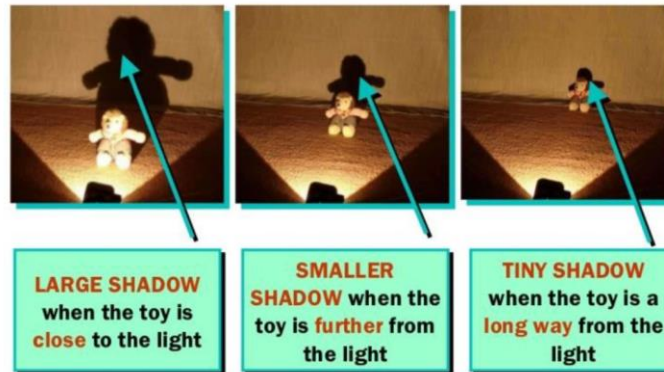
At the end of the unit, I will be able to:

- 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 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.

Vocabulary

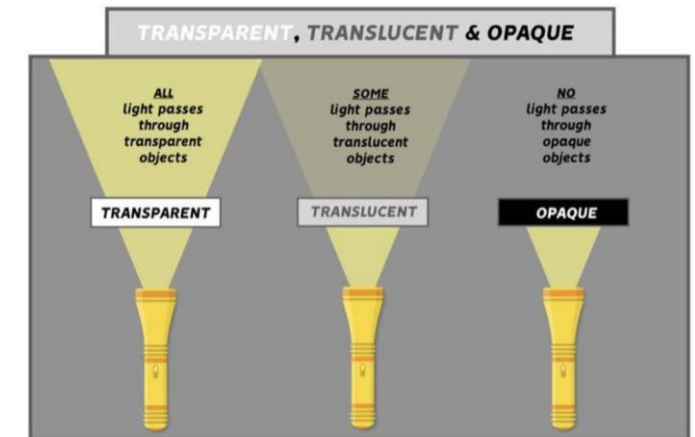
| | |
|------------------|---|
| light | We can see objects because our eyes can sense light |
| dark | Darkness is the absence of light |
| light source | An object that produce light (sun, fire) |
| artificial light | Light made from a man made object (torch, lamp) |
| shadow | A dark area or shape caused by a blockage of light |
| reflection | When light bounces of a reflective surface |
| translucent | When light can travel through an object or material (glass) |
| transparent | When some light can travel through an object or material |
| opaque | When no light can travel through an object or material. |
| reflect | When light bounces off a surface |

Key Knowledge



You can change the size and shape of shadows by placing the light source further away of closer to the object.

A ray of light can be changed by placing objects in front of it.



Thomas Edison



Do you love your mobile phone? How about movies or taking photos? Thomas Edison invented early versions of these modern marvels. He also invented the electric lightbulb. Imagine how different life was before his inventions. The only way families could communicate with each other was through letters, which could take weeks or even months to arrive. For light, people used candles or oil lamps, which were smoky and messy.

Light Quiz

1) Name 3 sources of natural light and 3 sources of man-made light.

2) True or false? Light can travel round corners.

3) What type of surface can reflect light?

4) Who invented the first electric lightbulb?

5) How are shadows made?