

Science Y3 Spring 1 – Light and dark

In this unit children will have the opportunity to explore different light sources. They will investigate how light is reflected from different surfaces. They will learn about the dangers of looking directly at the sun and discuss ways to protect their eyes. They will learn about shadows and investigate how they change.

In this unit children will:

- Find out the dark is the absence of light and know that they need light in order to see things.
- Know that light is reflected from different surfaces and name them.
- Learn about the sun being a source of light and how it is dangerous to look directly at the sun. They will know the ways that they can protect their eyes from the sun.
- Know 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

Prior Learning

F.S Know that there are similarities and differences in materials.

Y1 Materials – group them on their physical properties

Y2 Materials – comparing suitability of materials

Cross Curricular Links

Japan – time zones

Volcano - fire

Key Vocabulary

Light – A brightness that lets you see things.

Dark – Dark is the absence of light. If there is no light from a source, it will be dark.

Visible – Able to be seen.

Reflect – It sends the light back and does not absorb it.

UV light – UV light is a type of light that the sun emits. It is invisible to humans, but we can see and feel its effects.

White light – A combination of all of the colours in the spectrum.

Spectrum – All of the colours in the rainbow.

Shadow – An area of darkness where the light has been blocked.

Transparent – Allows light through so objects behind can be seen clearly.

Translucent – Allows light, but no detailed shape, to pass through.

Opaque – Does not let any light through.

Key Knowledge

- Light is a type of energy that makes it possible for us to see the world around us. Light comes from different sources called light sources – our main natural light source is the sun.
- All light must come from a source.
- A light source is something that emits light by burning, electricity or chemical reactions.
- Not only hot objects give out light, light comes from cold sources too.
- The sun, a candle, fire, lightening, a light bulb, computer screen and a lamp are all examples of a light source.
- We must never look directly at the sun as the light produced is very bright and can be harmful to our eyes. This is why we wear sunglasses.
- The moon, a mirror, a window, a diamond and a bucket are not light sources. The sun's light reflects on the surface of the moon, making it appear as though the moon emits light.
- Reflection occurs when light bounces off a polished surface (like a mirror) and changes direction as a result.
- When light is blocked by an opaque object, a dark shadow is formed.



- Light travels from different sources in a straight line.
- Light travels from a source to our eyes. We can see sources in a dark room.
- Light cannot bend around things or travel through objects.
- Shiny things are not light sources, they appear to be sources of light as they are bright.

Key Questions

- Where does light come from?
- Which surfaces reflect light?
- How can the light from the sun be dangerous?
- How does a mirror work?
- When light bounces off a surface it is ...?