



Year 3 Science Knowledge Organiser: (Light)



Subject Specific Skills

- I can recognise that they need light in order to see things and that dark is the absence of light
- I can notice that light is reflected from surfaces
- I can recognise that light from the sun can be dangerous and that there are ways to protect their eyes
- I can recognise that shadows are formed when the light from a light source is blocked by an opaque object
- I can find patterns in the way that the size of shadows change.

Prior Learning

- Some sources of natural and artificial light e.g. the sun, a light bulb
- Some uses of light including plants needing light to grow

Key Knowledge:

- Pupils should explore what happens when light reflects off a mirror or other reflective surfaces, including playing mirror games to help them to answer questions about how light behaves. They should think about why it is important to protect their eyes from bright lights. They should look for, and measure, shadows, and find out how they are formed and what might cause the shadows to change.
- Light is a form of energy. Visible light means any light that can be seen by humans. Light sources are objects that emit light. Visible light is one form of electromagnetic radiation. Others include infrared, ultraviolet, microwaves and X-rays.
- White light is light that appears white to the eye. It is produced by natural light sources like the Sun, and artificial light sources such as light bulbs. White light is made up of a spectrum of colours with different wavelengths.

Key Vocabulary

Visible light: A visible form of energy that enables us to see.

Ray: Waves of light are called light rays. They can also be called waves.

Reflection: The process where light hit the surface of an object and bounces back in to our eyes

Light Source: Something that creates its own light.

Key Individual:
Augustin-Jean
Fresnel



Key Knowledge:

- We can see objects because light rays bounce off them and into our eyes. This is known as reflection. Light that is not reflected by objects is absorbed. The degree to which reflected light is scattered depends on the surface of the material. Smooth, shiny objects, such as mirrors, are very good reflectors. Rough surfaces disperse the reflected light in many different directions and look dull.
- Children often think that light is only found in bright places. They know that dark is the opposite of light, so assume that if it's dark, there must not be any light around at all.
- During the teaching of this topic area, the children should be warned that very bright lights can seriously damage their vision . Make them aware that they should never look directly at the Sun, even when wearing sunglasses.

