



Jerry Clay Academy
Subject Knowledge Organiser

Subject: Science (Light) Year Group: 6 Term: Spring 1

Core Learning of This Unit:

- To investigate how light reflects so that we can describe the movement of light beams.
- To investigate shadow sizes so that we can explain the use and positioning of a light source.
- To investigate how a prism works so that we can explain how it changes a ray of light.
- To use scientific vocabulary and definitions so that we can create a glossary for our science topics.
- To explain the scientific concept of inheritance so that we can understand that living things produce
- To explain the scientific concept of adaptation so that we can describe how animals and plants adapt to suit their environments.

Prior Learning:

From KS1: Some properties of materials including glass; mirrors are made from shiny materials. Children also know that shadows are dark and are similar in shape to the object forming them.

From Year 3 children should: Recognise that they 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.



National Curriculum Statements:

Pupils should be taught to:

- recognise that light appears to travel in straight lines
- use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye
- explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes
- use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them

Key Vocabulary:

- Filter – Pass through a device to remove unwanted material (liquid, gas, light or sound)
- Light – The natural agent that stimulates sight and makes things visible
- Light source – Something that provides light, whether it be a natural or artificial source of light (e.g. the sun, a torch)
- Periscope – An apparatus consisting of a tube of attached to a set of mirrors or prisms through which an observer can see things that are otherwise out of sight
- Rainbow – An arch of colours visible in the sky, caused by the refraction and dispersion of the sun's light by rain or other water droplets in the atmosphere
- Reflection – The throwing back by a body or surface of light, heat or sound without absorbing it
- Refraction – The bending of light as it passes from one substance to another with the bending caused by the difference in density between

Significant People

- Our modern understanding of light and color begins with Isaac Newton (1642-1726) and a series of experiments that he publishes in 1672. He is the first to understand the rainbow — he refracts white light with a prism, resolving it into its component colors: red, orange, yellow, green, blue and violet.