Jerry Clay Academy
Subject Unit Overview

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 artifical 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 two substances

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.