



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:

- **light**-a form of energy that travels in a wave from a source.
- **light source**-an object that makes its own light.
- **reflection**-where light hits a surface of an object and bounces back into our eyes.
- **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
- **incident ray**-a ray of light that hits a surface.
- **reflected ray**-a ray of light that has bounced back after hitting a surface.
- **the law of reflection**-the angle of the incident ray is equal to the angle of the reflected ray.
- **visible spectrum**-light that is visible to the human eye. It is made up of the colour spectrum.
- **prism**-a solid 3d shape with flat sides. A transparent prism separates out visible light into all the colours of the spectrum.
- **shadow**- an area of darkness where light has been blocked.
- **transparent** -objects that let light through easily.
- **translucent**-objects that let some light through but scatters the light.
- **opaque**-objects that do not let any light pass through.

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.