

The activities and topics are as follows:

Activity	Topic
Introduction	The opening poster introduces students to Leonardo Da Vinci as an engineer, scientist, and architect, and highlights his work with light and shadows. Students will visually understand some of the engineering feats accomplished by Da Vinci.
Activity 1 – Luminosity	<p><i>Leonardo's Hypothesis</i>  <i>And were you to believe that the moon has its own light, you would be mistaken.</i></p> <p>Let's find out if Leonardo's Hypothesis about the moon being a non light emitting object was correct.</p> <p>Students will examine various celestial bodies to determine how we see these objects and determine if these objects, as well as many others, emit their own light or reflect light from a light source.</p>
Activity 2 – Sun Shadows	<p><i>Leonardo's Hypothesis</i>  <i>The cast shadow will be longest when the light is lowest...</i>  <i>The cast shadow will be shortest when the light is highest...</i></p> <p>Let's find out if Leonardo's Hypothesis about shadows being longer in the morning and evening and shorter at noon when the sun is at its highest point of the day, was correct.</p> <p>Students will examine how the shadow cast by the sun and an opaque object changes over the course of a day by measuring and graphing their results.</p>
Activity 3 – Shadow Casting	<p><i>Leonardo's Hypothesis</i>  <i>All bodies in proportion as they are nearer to or farther from the source of light will produce longer or shorter derived shadows...</i></p> <p>Let's find out if Leonardo's Hypothesis about the distance the light is from an opaque object and the size of shadow it creates, was correct.</p> <p>Students will experiment with different locations and distance for a light source and an opaque object to recreate a shadow. They will learn how to change the size and shape of the cast shadow.</p>
Activity 4 – Transparency	<p><i>Leonardo's Hypothesis</i>  <i>Light can pass through (semi) transparent objects such as linen or paper but is not transparent like glass or crystal which produce the same effect as though nothing had intervened...</i></p> <p>Let's find out if Leonardo's Hypothesis about the difference between transparent and translucent objects, was correct.</p> <p>Using a light meter and their own observations students will determine the transparency of various objects.</p>

Activity 5 –  
Refraction

*Leonardo's Hypothesis*

*If, when you are under water, you look at objects in the air you will see them out of their true place; and the same with objects under water when seen from the air...*

Let's find out if Leonardo's Hypothesis about seeing objects out of place under water, was correct.

Students will use various shaped glass pieces as well as different media (air and water) to understand the basic principles of the bending of light.

Activity 6 –  
Light Spectrum

*Leonardo's Hypothesis*

*White is not a colour but the neutral recipient of every colour...*

Let's find out if Leonardo's Hypothesis about white light being made up of all the colours of the spectrum, was correct.

Students will examine the various colours that make up our visible light spectrum. Students will then learn how to mix colours of light to create all the colours we see.

Activity 7 –  
Optical Devices

*Leonardo's Hypothesis*

*Camera obscura - Who would believe that so small a space could contain the image of all the universe?...*

Let's find out if Leonardo's Hypothesis about pin hole cameras and learn how it and other optical devices work, was correct.

Students will learn how lens can be used to create optical devices with different functions by examining a microscope and telescope. Students can then make their own optical devices using the lens provided.