

## Teacher's Guide

### The Lens

#### Greatest Human Achievements

**Grade Levels:**

5-12

**Subject Areas:**

STEM

**Synopsis:**

From Galileo's discovery of the earth's orbit around the sun to the ways in which medicine and modern technology have changed, this program explores the discovery of the lens and its impact on the world.

**Learning Objectives:** Students will:

- Consider the impact of the invention of the lens
- Understand Galileo's impact on society
- Consider vaccinations
- Recognize the evolution of modern medicine

**Vocabulary:**

Galileo, Telescope, Heresy, Heliocentricity, Antony Van Leewenhoek, Microscope, Edward Jenner, Epidemics, Small Pox, Vaccination, Iron Lung, Anesthesia, Humphry Davy, Nitrous Oxide, Ether, Chloroform, Germ Theory

**Pre-Viewing Discussion:**

What has the lens done for modern society?

What was a major issue with sickness before the late 19<sup>th</sup> century?

Why was surgery so dangerous in the past?

**Post-Viewing Discussion:**

What did Galileo discover? Why did this make the church and state so mad at him?

What has the microscope done for sure?

How was a cure for small pox discovered? Who discovered it? Would this type of experiment ever happen today? Why?

Why was surgery so dangerous? Once anesthesia was discovered, what was the next problem doctors faced? How was this solved?

**Further Activities:**

Investigate a specific case of polio in the 1940s.

Research a new, cutting edge medical procedure. Cite what it entails.