
The Enlightenment

Isaac Newton and the Scientific Revolution

Learning Objectives

Explain what the Scientific Revolution was

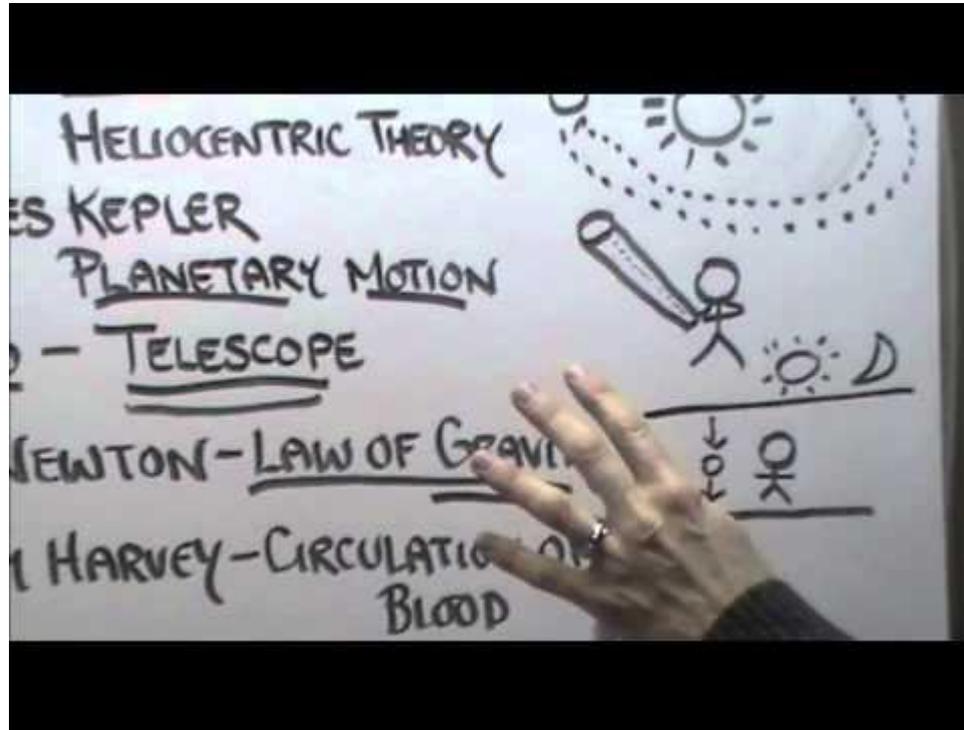
Identify Isaac Newton and three of his major contributions to science

The Scientific Revolution

Knowledge through Reason

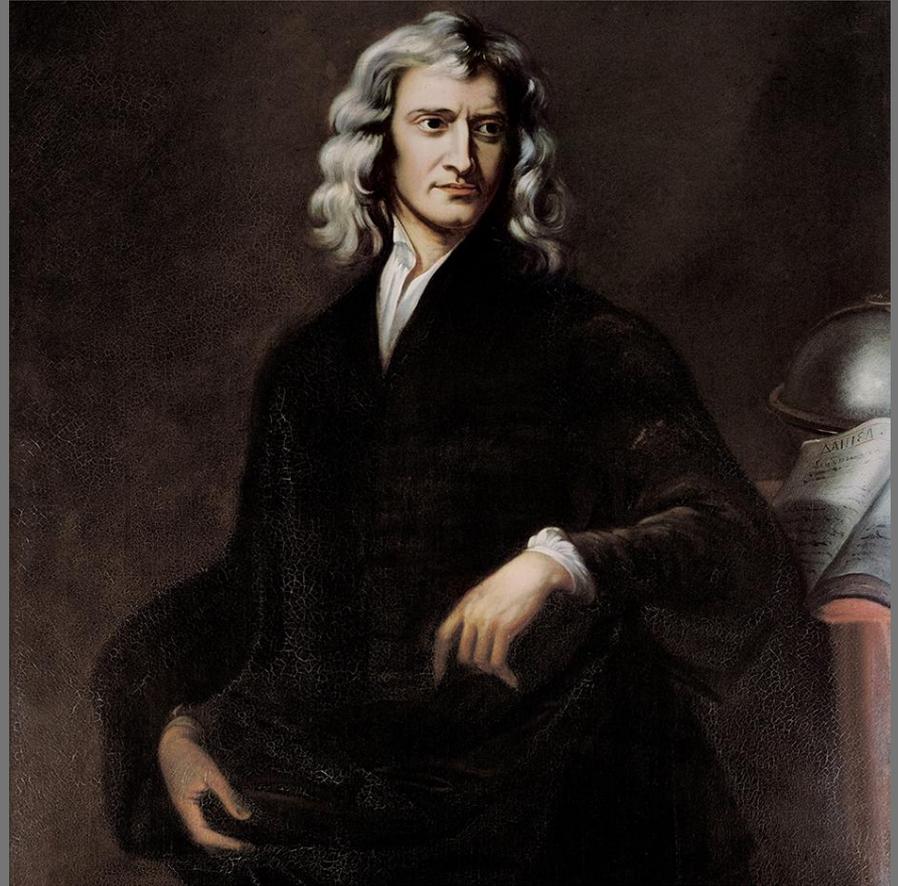
“One of the most important developments in the western intellectual tradition was the Scientific Revolution. The Scientific Revolution was nothing less than a revolution in the way the individual perceives the world. As such, this revolution was changed man's thought process. It was an intellectual revolution -- a revolution in human knowledge.

Even more than Renaissance scholars who discovered man and Nature , the scientific revolutionaries attempted to understand and explain man and the natural world.”



The Scientific Revolution (Source: https://www.youtube.com/watch?v=z6_i0dInceg)

Isaac Newton



The founder of modern science

“Sir Isaac Newton, (born December 25, 1642, England—died March 20 1727, London) was an English physicist and mathematician, who was the culminating figure of the scientific revolution of the 17th century.

In optics, his discovery of the composition of white light integrated the phenomena of colours into the science of light and laid the foundation for modern physical optics. In mechanics, his three laws of motion, the basic principles of modern physics, resulted in the formulation of the law of universal gravitation. In mathematics, he was the original discoverer of the infinitesimal calculus. Newton’s *Philosophiae Naturalis Principia Mathematica* (1687) was one of the most important single works in the history of modern science.”

Source: <https://www.britannica.com/biography/Isaac-Newton>

Awesome detailed timeline: <http://www.bbc.co.uk/timelines/zwwqcdm>

Key Scientific Discoveries

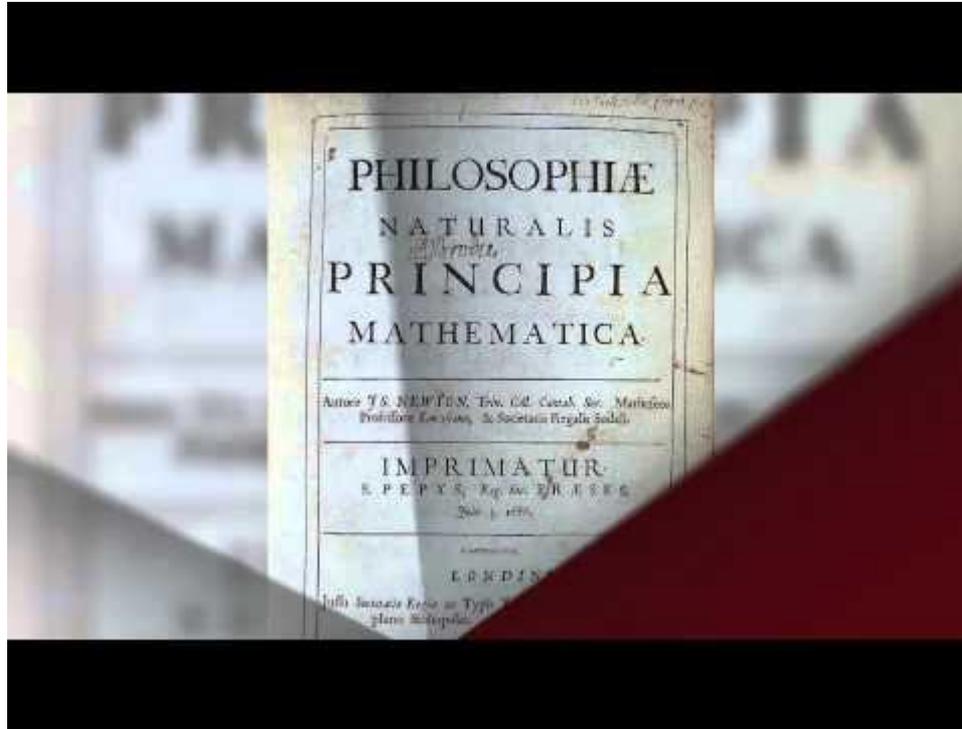
Gravity - Newton is probably most famous for discovering gravity. Outlined in the Principia, his theory about gravity helped to explain the movements of the planets and the Sun. This theory is known today as Newton's law of universal gravitation.

Laws of Motion - Newton's laws of motion were three fundamental laws of physics that laid the foundation for classical mechanics.

Calculus - Newton invented a whole new type of mathematics which he called "fluxions." Today we call this math calculus and it is an important type of math used in advanced engineering and science.

Reflecting Telescope - In 1668 Newton invented the reflecting telescope. This type of telescope uses mirrors to reflect light and form an image. Nearly all of the major telescopes used in astronomy today are reflecting telescopes.

Read more at: http://www.ducksters.com/biography/scientists/isaac_newton.php



Isaac Newton (Source: <https://www.youtube.com/watch?v=PCxP24qj2UQ>)

Review:

What was the Scientific Revolution?

Who was Isaac Newton?

What were three of his major contributions to science?

Additional Viewing



HD Documentary- Isaac Newton

(Source: https://www.youtube.com/watch?v=92w_HxCih1U)
