



**CALIFORNIA CONTENT
STANDARD 7.10**

*The Scientific Revolution
(1500s–1700s)*

Overall Objective: Analyze the historical developments of the Scientific Revolution and its lasting effect on religious, political, and cultural institutions.

Read the cause-and-effect chart below to answer questions on the next page.

Roots of the Scientific Revolution

- Greek approach to learning about the world through rationalism or logical thought
- Greek ideas about science and math, such as the importance of observation in medical diagnosis, the use of dissection, and the basics of geometry
- Preservation of classical knowledge by medieval Muslim and Jewish scholars
- Scientific and mathematic advances by medieval Muslim and Jewish scholars
- Humanism-inspired interest in experimentation and exploration
- Renaissance interest in scientific learning
- Development of new technology such as the printing press
- Studies by Renaissance artists that increased knowledge of the human body
- Increase in knowledge of the world as a result of greater exploration

Spirit of questioning and access to more knowledge led to the Scientific Revolution.

The Scientific Revolution

- New scientific theories
 - Copernicus and Kepler proved that Ptolemy’s earth-centered view of the universe was wrong and that the planets revolve around the sun.
 - Galileo Galilei, using the telescope he made, determined that Copernicus was right and the earth did revolve around the sun.
 - Sir Isaac Newton proved that gravity acts on all objects in the universe.
 - William Harvey discovered how blood circulates.
- New scientific inventions: The microscope, the telescope, the barometer, and the thermometer increased accuracy of data collection and led to further advances.
- New philosophies
 - René Descartes questioned beliefs until reason could prove them true or untrue.
 - Sir Francis Bacon developed the scientific method: observe, describe the problem or question, form a hypothesis, test the hypothesis, and draw a conclusion.

The Scientific Revolution changed religion and politics.

Consequences of the Scientific Revolution

- The Catholic Church weakened as people questioned traditional beliefs and thought for themselves.
- Thinkers such as John Locke applied new principles to government, which planted the seeds of democracy.

