

Europeans' thinking after the Renaissance and Reformation in 17th and 18th century

Europeans had new understandings and views about nature, society and the world through rational thinking.

- Started to challenge traditional teachings
- Developed new understandings and views
- Lead to Scientific Revolution and the Enlightenment

Begin of the Scientific Revolution

- Scientific study became popular in 16th-century Europe
- Mainly aim to revive the ancient Greco-Roman scientific knowledge
- In the 17th century, the 'Scientific Revolution' started
- New scientific theories were proposed, leap forward in the technological development of modern Europe

Causes of the Scientific Revolution

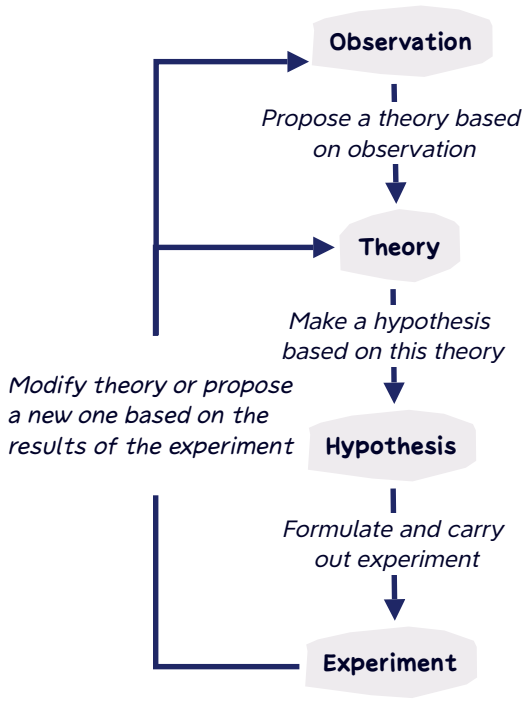
- Encouragement of the Renaissance
  - Renaissance scholars carried out experiments, and proposed scientific theories.
  - Contradicted the teachings of the Church
- Printing press
  - The development of printing press increased book circulation and promoted academic exchanges
  - Created favourable conditions for the start of the Scientific Revolution
- Voyages of Discovery
  - Between 15th century and 16th century, European navigators started a series of naval explorations known as 'Voyages of Discovery'
  - Opened up new sea routes and discovered unknown lands
  - Widened the horizons of Europeans.
  - Discover global circumnavigation and proved that the 'Earth was round' and overthrew traditional theories
  - Increased interest of European scholars to find new knowledge include science

The Scientific Revolution (17th-18th centuries)

Major development during the Scientific Revolution

- Establishment of scientific organization
  - Scholars seldom exchanged their ideas before Scientific Revolution
  - During the Scientific Revolution, independent scientific bodies were founded, such as 'Royal Society of London for Improving Natural Knowledge', set up in 1660.
  - Held meetings and published reports which provided a platform for academic exchanges.
  - European scholars stressed the importance of 'scientific methods'
- Scientific methods
  - A skeptical attitude, observations and experiments were necessary for scientific research

Scientific Method



Scientific main achievement	
Kepler (1571-1630)	Suggested the law of motion, the famous 'Kepler's laws'
Harvey (1578-1657)	Showed the work of heart and blood and blood circulation in animals and humans
Boyle (1627-1691)	Defined chemical elements and prove principles behind natural phenomena
Newton (1642-1727)	Suggested the law of light, the law of motion and the law of universal gravitation

Impact of the Scientific Revolution

- The Scientific Revolution changed Europeans' thoughts and views
- New scientific theories had proved that Church's teachings on the universe were wrong
  - People's faith in the Church at that time decrease
- Europeans found out truth by adopting old knowledge, rational thinking and reasoning.
  - Increase European's faith in reason
- Scientists learned to use observation and experiments to create more new discoveries and theories
  - Increase Europeans' understanding of the natural world
- Scientists and Europeans were encouraged skeptical attitude and challenge traditional authority. Europeans apply scientific theories to industrial production and transportation
  - The Scientific discoveries and new technologies invention increase. Led to the Industrial Revolution in the 17 century and accelerated the rise of modern Europe