

Scientific Method

Historical Perspective

Scientists are curious and inquisitive in the pursuit questions such as what if, why, and how. The scientific method is the process of scientific inquiry. Scientists use the scientific method to collect information by observation or experimentation. They collect data related to a proposed hypothesis with the goal of either supporting or denying their hypothesis. It's the way scientists have been conducting research for centuries.

[\(Scientific Method Flowchart\)](#)

The scientific method was not discovered by one scientist. The evolution of the scientific method occurred over several centuries and involved the contributions of several scientists. Let's take a look at just some of these important individuals.

Aristotle (384-322 B.C.E.) – The first to lay down a standard for scientific research and understand the importance of empirical measurement.

Roger Bacon (1214 - 1294) - was one of the first to refine the scientific methods. He came up with the idea to make observations, hypothesis and experiment.

Nicolaus Copernicus (1473–1543) – Suggested that that the universe should be modeled with the sun as a center and not the earth.

Tycho Brahe (1546–1601) – Expanded upon Copernicus' work by using precise instrumental observation to verify the proposed model.

Francis Bacon (1561 – 1626) - believed that all scientific discovery should proceed through a process of observation, experimentation, analysis and inductive reasoning.

Galileo Galilei (1564–1642) - The first to have a scientific law generated from experimentation and understood the importance of repetition in experimentation.

Johannes Kepler (1571–1630) – The first to theoretically analyze experimental data.

Renes Descartes (1596–1765) – First to use mathematics to quantify theory (with Newton).

Isaac Newton (1643–1727) – Used theoretical mathematics to support his theories.