

## Scientist – Theory - Discovery

عالم – نظرية علميه – إكتشاف علمي

### 1543 – 1705

**1543**

Nicolaus Copernicus publishes his theory of a sun-centered universe.

**1572**

Tycho Brahe observes a new star, or supernova, traveling outside of Earth's atmosphere, providing evidence that the heavens can change.

**1608**

Dutch eyeglass maker Hans Lippershey creates the first refracting telescope, an invention destined to revolutionize astronomy.

**1609**

Johannes Kepler publishes his first works describing the laws of planetary motion.

**1610**

Galileo Galilei describes his findings of sunspots, moon craters, and four moons of Jupiter, proving that not everything in the universe orbits the Earth.

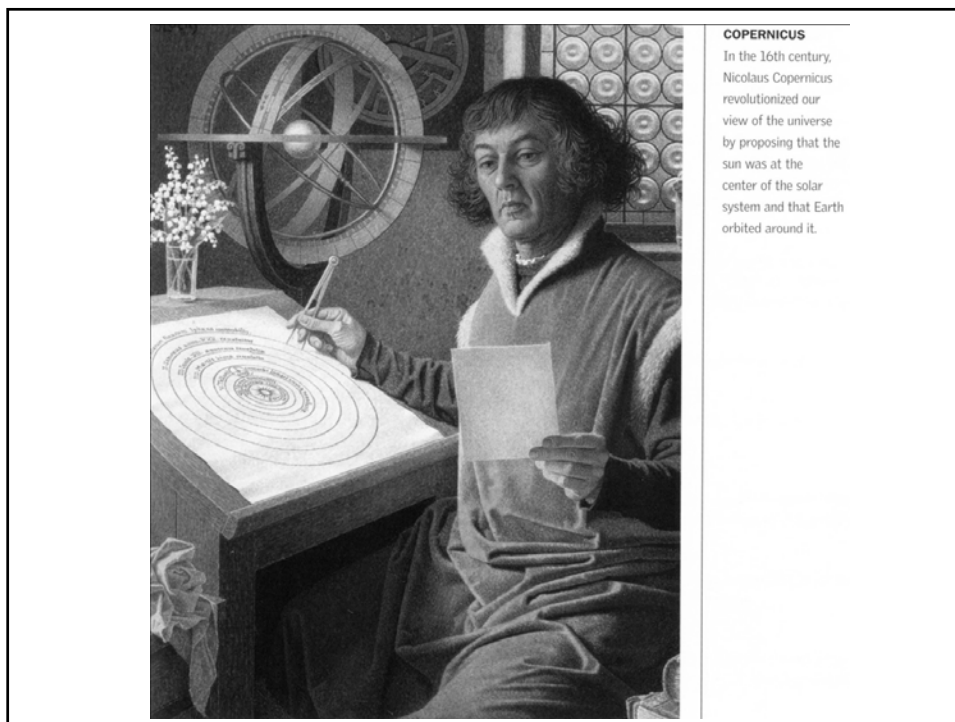
**1687**

Sir Isaac Newton publishes his *Principia*, introducing his theory of universal gravitation and his three laws of motion.

**1705**

Edmund Halley's calculations predict a recurring comet. When the comet returns as predicted in 1758, it is named in his honor.





## NICOLAUS COPERNICUS

### *Astronomer, heliocentric theorist*

1473

Born on February 19, in Torun, Poland.

1491-1494

Studies liberal arts at the University of Cracow.

1496-1500

At the University of Bologna, Italy, studies under Domenico Maria de Novara, master astronomer; witnesses and assists on many celestial observations.

1501-1503

Studies medicine at the University of Pauda, Italy.

1503

Receives a doctorate in canon law from the University of Ferrara, Italy.

1504

Begins collecting observations and gathering ideas relating to his theories on the motions of the universe.

1507

Circulates his *Commentariolus*, first expression of his heliocentric model of the universe.

1522

Delivers a treatise on the minting of coinage at the Congress of the Estates of Royal Prussia at Grudziadz.

1539

Receives a visit from Georg Joachim Rheticus, professor of mathematics from Wittenberg, who is eager to learn of his heliocentric theory and to assist him in publishing a longer treatise describing it.

1543

Copernicus's most important treatise offering evidence for the heliocentric model of the universe *De revolutionibus orbium coelestium* is published in Nuremberg.

1543

Dies on May 24 in Frauenburg, East Prussia, present-day Frombork, Poland.