

Name \_\_\_\_\_

## Revolutionary Renaissance Thinkers: Copernicus and Galileo



During the Renaissance, a period of remarkable cultural and intellectual growth that spanned from the 14th to the 17th century, scientists and thinkers made groundbreaking contributions to our understanding of the universe. Two of the most prominent figures during this era were Nicolaus Copernicus and Galileo Galilei, who forever changed the way we perceive our place in the cosmos.

### Nicolaus Copernicus

Nicolaus Copernicus, born in 1473 in Poland, was a Renaissance mathematician and astronomer. He is best known for his revolutionary theory about the structure of the solar system. In Copernicus's time, it was widely believed that Earth was at the center of the universe, and all celestial bodies, including the Sun and the planets, orbited around it. However, Copernicus dared to challenge this prevailing belief.

Copernicus proposed a heliocentric model, which means that he argued that the Sun, not Earth, was at the center of our solar system. He suggested that Earth and other planets revolved around the Sun. This idea was groundbreaking because it fundamentally altered our understanding of the cosmos. Copernicus's work laid the foundation for modern astronomy and led to the eventual acceptance of the heliocentric model.

### Galileo Galilei

Galileo Galilei, born in 1564 in Italy, was another brilliant Renaissance scientist who furthered Copernicus's heliocentric theory. Galileo made significant contributions to astronomy and physics through his meticulous observations and experiments.

One of Galileo's most famous achievements was his improvement of the telescope. He built his own telescope and used it to observe the night sky in unprecedented detail. Through his observations, Galileo made several groundbreaking discoveries. He observed the phases of Venus, which provided strong evidence for the heliocentric model. He also discovered the four largest moons of Jupiter, now known as the Galilean moons, which demonstrated that not all celestial bodies orbited Earth.

Galileo's observations of the Moon revealed its uneven surface, challenging the notion of a perfect, unchanging celestial realm. His work with pendulums laid the foundation for the study of gravity and motion. However, his support for the heliocentric model and his defense of it brought him into conflict with the Catholic Church, leading to his house arrest in his later years.