

Developer	Description	Accuracy
Ptolemy (83-161)	Earth at center of the universe. Planets and stars revolve in small circular orbits called epicycles, whose centers orbit the Earth in much larger circular orbits.	fits observations very accurately
Nicolaus Copernicus (1473-1543)	Sun at center of universe. Earth and other planets revolve in circular orbits around Sun. This model explained the retrograde motion of the sun without requiring epicycles.	Copernican model did not fit observational data as well as Ptolemaic model.
Tycho Brahe (1546-1601)	Earth at center of solar system. Sun revolves around earth; planets revolve around sun in circular epicyclic orbits.	Brahe's data fits his observational data very well, but has the sun orbiting the earth.
Johannas Kepler (1571-1630)	Sun at center of solar system. Planets revolve in elliptical orbits, with the sun at one of the ellipse's foci.	Kepler's model fits Brahe's observational data very well and is much simpler than Brahe's or Ptolemy's models.
Isaac Newton (1643-1727)	Newton showed that Kepler's model follows from the inverse square law for gravitation.	Experimental data from the telescope fitted Kepler's model better.

Table 5.6: Accurately predicting the motion of planets and stars was critical both for both producing calendars and for navigating.