Revolutions and Rotations of the Earth

Geocentric Universe

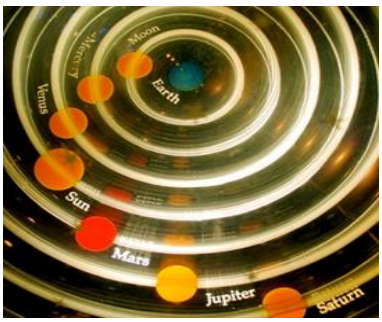
- In ancient times, people believed in a geocentric model for the universe, meaning that they believed the Earth was the center of the universe. It explained why the planets moved differently from each other and why the stars rotated around Earth once a day. The ancient Greek astronomer Ptolemy came up with a geocentric model that lasted for over a thousand years.

Study Tip

Kepler discovered that the planets had elliptical orbits rather than circular orbits. He was also responsible for creating Kepler's Laws of Planetary Motion.

Heliocentric Universe

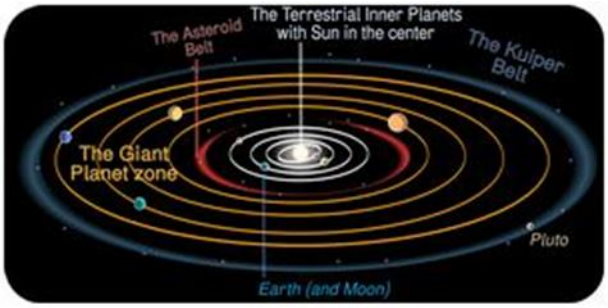
- During the 16th century, Nicolaus Copernicus designed the first heliocentric model for the universe, which was later refined by Kepler. Galileo's discovery of the moons of other planets and of Venus' phases allowed the heliocentric model to be accepted.



Before the Heliocentric theory came about, many believed that the Earth was the center of the universe.

Revolution

- It takes about 365.24 days for the Earth to make a complete revolution around the Sun, which is roughly the length of a year. It takes about 29.5 days for the Moon to make a complete revolution around Earth, which is the length of a month in the Lunar calendar. The Earth rotates at about 1700 km/h, and it makes a full rotation every 24 hours (1 day).



The heliocentric model showing elliptical orbits.

Concept Check

- What is a geocentric model? Who came up with it?
- What is a heliocentric model? Who was involved in the design of it?
- What and how long is the Earth's revolution?
- What and how long is the Earth rotation?