

Key Terms

aphelion furthest distance between a planet and the sun (called apoapsis for other celestial bodies)

Copernican model the model of the solar system where the sun is at the center of the solar system and all the planets orbit around it; this is also called the heliocentric model

eccentricity a measure of the separation of the foci of an ellipse

Einstein's theory of general relativity the theory that gravitational force results from the bending of spacetime by an object's mass

gravitational constant the proportionality constant in Newton's law of universal gravitation

Kepler's laws of planetary motion three laws derived by Johannes Kepler that describe the properties of all orbiting satellites

Newton's universal law of gravitation states that gravitational force between two objects is directly proportional to the product of their masses and inversely proportional to the square of the distance between them.

perihelion closest distance between a planet and the sun (called periapsis for other celestial bodies)

Ptolemaic model the model of the solar system where Earth is at the center of the solar system and the sun and all the planets orbit around it; this is also called the geocentric model