

The Solar System

The Solar System consists of the Sun and the objects that orbit it, including eight planets and their moons, dwarf planets, asteroids, comets, and meteoroids. The four inner planets - Mercury, Venus, Earth, and Mars - are terrestrial planets, while the four outer planets - Jupiter, Saturn, Uranus, and Neptune - are gas giants. The Solar System formed about 4.6 billion years ago from a molecular cloud.

The Sun contains 99.86% of the Solar System's mass, providing the gravitational force that keeps the system together. Earth is the only planet known to harbor life, and its moon stabilizes the planet's axial tilt and influences tides. Mars, the next candidate for human exploration, exhibits signs of past water flow.

Asteroids, primarily located in the asteroid belt between Mars and Jupiter, are remnants from the Solar System's formation. Beyond Neptune lies the Kuiper Belt and the Oort Cloud, regions filled with icy bodies and comets.

Space exploration has expanded our understanding of the Solar System, with missions like Voyager, Curiosity, and the Perseverance rover providing valuable data.