

Jupiter

The giant of storms

Jupiter is the most massive planet. Its Great Red Spot is an ancient storm larger than Earth, while its Galilean moons almost form a small planetary system of their own.

Type	Gas giant
Diameter	139,820 km
Mass (Earth = 1)	317.8 Earth masses
Average distance	5.20 AU · 778.5 million km
Orbital period	11.86 years
Rotation	9 h 56 min
Temperature	≈ −110 °C at cloud level
Main orbiting bodies	Io, Europa, Ganymede and Callisto

Compare with Earth

About 1,300 Earths could fit inside its volume.

Understanding Jupiter

English learning edition - September 2026

Composition and interior

Jupiter consists mainly of hydrogen and helium. Deep inside, pressure turns hydrogen into an electrically conducting metallic fluid around a probably diffuse core.

Atmosphere and environment

Its cloud bands contain substances including ammonia and water, and powerful winds sweep through them. Its immense magnetic field traps highly energetic particles.

Exploration

Juno has measured Jupiter's gravity, magnetic field and atmospheric structure. Europa Clipper is travelling to Jupiter, with arrival planned for 2030, to investigate whether Europa has conditions suitable for life.

A remarkable fact

The Great Red Spot is a storm observed for centuries and larger than Earth. In 1610, Galileo observed Io, Europa, Ganymede and Callisto, showing that not everything orbits our planet.

Sources and limitations

NASA Science: <https://science.nasa.gov/jupiter/facts/>

Online fact sheet: <https://systeme-solaire-3d.fr/en/jupiter>

Values are rounded. The artistic view changes sizes and distances for readability. Check dated information before reusing it.