



## The Solar System

Earthlings celebrate a birthday once a year. An Earth year (or sidereal year) is a measure of how long it takes Earth to complete one orbit around the Sun (365.25 days). If you lived on a planet further away from the Sun, your year would be longer. If you lived on Neptune, it would take 165 Earth years to orbit the Sun—that's a long time between birthdays! Mercury, which is closest to the Sun, completes its orbit in about three months.

All nine planets orbiting the Sun have slightly elliptical orbits, although most are almost circular. Pluto has the most elliptical orbit, but scientists are debating whether Pluto is a planet or a very large meteorite. Pluto is actually smaller than Earth's moon and takes 248 years to orbit the Sun.

The speed at which planets orbit the Sun depends on their distance from the Sun. Earth's orbital speed is believed to be about 108 000 kilometres/hour, while Neptune moves at about 19 600 kilometres/hour.

Every planet with the exception of Mercury and Venus has at least one moon in orbit. Jupiter has nearly 60 moons in orbit.

There are many asteroids and meteorites found orbiting the Sun, particularly in the Kuiper-Belt near Neptune or the Main Asteroid Belt between Mars and Jupiter.

As well as the planets orbiting the Sun, the whole Solar System moves in orbit around the Milky Way. This means that every 226 million years, the Sun has moved in orbit around the central bulge of the Milky Way, dragging the Solar System planets along with it.

### **More Information**

NASA's Jet Propulsion Laboratory

[http://sse.jpl.nasa.gov/features/planets/planet\\_profiles.html](http://sse.jpl.nasa.gov/features/planets/planet_profiles.html)

[http://www.jpl.nasa.gov/solar\\_system/](http://www.jpl.nasa.gov/solar_system/)

<http://sse.jpl.nasa.gov/features/planets/planetsfeat.html>

Scientific American

Ask the Experts

26 October 1998

How fast is the earth moving?

[http://www.sciam.com/print\\_version.cfm?articleID=000D358F-79AC-1C72-9EB7809EC588F2D7](http://www.sciam.com/print_version.cfm?articleID=000D358F-79AC-1C72-9EB7809EC588F2D7)

Pluto as a Planet?

21 October 1999

[http://www.sciam.com/print\\_version.cfm?articleID=0009D053-74A9-1C72-9EB7809EC588F2D7](http://www.sciam.com/print_version.cfm?articleID=0009D053-74A9-1C72-9EB7809EC588F2D7)

Animation of Solar System orbits (including Quaoar)

<http://www.gps.caltech.edu/~chad/quaoar/quaoarorbit.gif>

Views of the Solar System <http://www.solarviews.com/eng/homepage.htm>

The Nine Planets <http://seds.lpl.arizona.edu/nineplanets/nineplanets/nineplanets.html>

Astronomy for Kids <http://www.dustbunny.com/afk/>