

# Length of a Day on Each Planet

## Why in News

 Recently, the research was undertaken to calculate the accurate length of a day on Venus and Saturn which has been changing since 1963.

### venus:

The recent observation of the Magellan spacecraft's observations (1991)
concluded that the rotation period for Venus has an uncertainty of about 9
seconds.

#### Saturn:

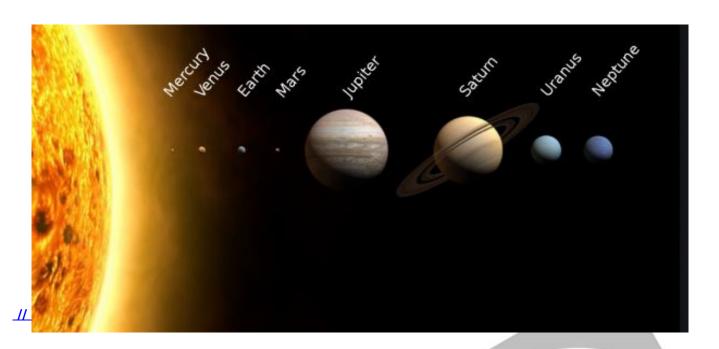
The recent, the <u>Cassini spacecraft</u> showed that there is an uncertainty of 6
minutes with a rotation period of Saturn.

## The Solar System

- The Solar System consists of the Sun and eight planets.
  - It also consists of bodies such as comets, asteroids, and meteors.

### **Planets vs Dwarf Planets**

- The definition of a planet was adopted by the <u>International Astronomical Union</u> in 2006. A planet must:
  - Orbit a star (in our system, it is the Sun).
  - Be big enough to have enough gravity to force it into a spherical shape.
  - Be big enough that its gravity cleared away any other objects of a similar size near its orbit around the Sun.
- On the other hand, <u>dwarf planet</u> is a celestial body orbiting a star that is massive enough to be rounded by its own gravity but has no clear orbit (Gravitationally not dominant in its orbit).



Planets	Facts
Mercury	<ul> <li>It is the nearest to the Sun and also the smallest planet in our solar system.</li> <li>It has no satellite of its own.</li> <li>It takes 1408 hours to complete a rotation.</li> </ul>
Venus	<ul> <li>It is called morning or an evening star, although it is not a star.</li> <li>Sometimes it is called as Earth's twin.</li> <li>Venus has no moon or satellite of its own.</li> <li>It rotates from east to west while the Earth rotates from west to east.</li> <li>It takes 5,832 hours to complete a rotation.</li> </ul>
Earth	<ul> <li>The Earth is the only planet in the solar system on which life is known to exist.</li> <li>The axis of rotation of the Earth is 23.5 degrees relative to the orbital plane - the plane of Earth's orbit around the sun. The tilt is responsible for the change of seasons on the Earth.</li> <li>The Earth has only one moon.</li> <li>The Earth takes 24 hours to complete a rotation.</li> </ul>
Mars	<ul> <li>It appears slightly reddish and, therefore, it is also called the red planet.</li> <li>Mars has two small natural satellites.</li> <li>It takes 25 hours to complete a rotation.</li> </ul>
Jupiter	<ul> <li>Jupiter is the largest planet of the solar system.</li> <li>Jupiter has 53 named satellites and another 26 awaiting official names.</li> <li>It also has faint rings around it.</li> <li>It takes only 10 hours to complete a rotation.</li> </ul>
Saturn	<ul> <li>The Saturn is yellowish in colour.</li> <li>It has an icy ring around it.</li> <li>It has more than 60 known moons.</li> </ul>

	<ul> <li>It takes 11 hours to complete a rotation (second-shortest day in the solar system).</li> </ul>
Uranus	<ul> <li>Uranus also rotates from east to west (like Venus).</li> <li>It has a highly tilted rotational axis.</li> <li>It takes 17 hours to complete a rotation.</li> </ul>
Neptune	<ul> <li>It is the eighth and most distant planet in our solar system.</li> <li>The Neptune is dark, cold and has a presence of supersonic winds.</li> <li>It takes 16 hours to complete a rotation.</li> </ul>

# Source: IE



