

One-Liners for Delhi Police & Group D Solar System: Important Facts



Important Facts of Solar System

- There are 3 to 4 major theories of the evolution of the universe and ultimately of the solar system. The prominent theory among all of these is the Big Bang theory.
- According to this theory proposed by Georges Lemaitre, the universe is evolved from a small singularity and then expands over the next 13.8 billion years and is still expanding.
- Our solar system lies in a spiral-shaped galaxy called 'Milky Way'. The nearest galaxy to us is '**Andromeda**'
- Generally, there is a Black hole at the centre of every galaxy. '**Sagittarius A**' is the black hole at the centre of the Milky Way.
- In our solar system, 8 planets and many other celestial bodies revolve around the sun in elliptical orbits
- The dwarf planet named Pluto was removed from the list of the planets by the International Astronomical Union in 2006
- **Mercury** is nearest to the sun while **Neptune** is the farthest planet from the Sun
- There is an asteroid belt between Mars and Jupiter. Planets inside the belt are distinctly different from those outside in terms of size, mass, and composition etc.
- Planets inside the belt are called **Terrestrial planets** and they are Mercury, Venus, Earth, and Mars. Planets outside the belts are called **Jovian planets** and they are Jupiter, Saturn, Uranus, and Neptune
- **Terrestrial planets** are nearer to the sun, with metallic minerals and rock crust, with a thin atmosphere and have less number of natural satellites. While **Jovian planets** are away from Sun, made up of hot gases, have rings around them, and have a large number of natural satellites.

1. Sun

- Composed of **Hydrogen (73%)**, **Helium (25%)** gases and other metals. Sun carries almost 99% of the mass of our solar system.
- Light takes around **8 minutes 30 seconds** at the speed of 3 lakh Km/sec to reach the earth
- Temperature at surface= 5800 K or 5600 degree Celsius
- Temperature at the centre= 15.7 million K

2. Mercury

- Smallest planet in the solar system with a diameter of 4900 Km.
- Fastest Planet with speed of 172500 Km per hour to complete revolution around Sun in 88 days.
- The planet with no water and gases like Nitrogen, Hydrogen, Oxygen and Carbon Dioxide.

3. Venus

- Hottest planet in the solar system with a surface temperature of 478 degree Celsius.
- Also known as "**Earth's Twin**". It is because of the similarity in size and mass between Venus and Earth
- One of the two planets in the solar system which **rotate around the axis in a clockwise direction**
- Brightest Star in the Solar system. It can be seen in the morning and evening with open eyes. So known as "**Evening Star**" and "**Morning Star**".

4. Earth

- The only Planet to give support to life with a pleasant atmosphere.
- Also known as "**Blue Planet**" because of the presence of water on it.
- It has one natural satellite named "**Moon**"

5. Mars



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- Known as **"Red Planet"** because of Iron-rich red soil
- Second smallest planet in the solar system after Mercury
- Has two natural moons **"Phobos" and "Deimos"**
- Has a thin atmosphere and surface with valleys, craters, deserts, and ice caps etc
- **"Olympus Mons"** – Largest volcano and the tallest mountain in the solar system lies on Mars

6. Jupiter

- Largest planet of the solar system with the shortest rotation
- Has an atmosphere filled with Hydrogen, Helium and other gases
- The third brightest object in the night sky after the Moon and Venus.
- **Great Red Spot**, a giant storm in the solar system exists on this planet.
- Has at least 79 moons, including 4 large Galilean Moons "Io, Europa, Ganymede, and Callisto" which were discovered by Galileo. **"Ganymede"** is the largest among them.

7. Saturn

- Second largest planet in the solar system and a gas giant.
- Has bright and concentric rings around it which are made up of tiny rocks and pieces of Ice.
- Saturn can float on water because it has less density than water.
- Has at least 82 moons and Titan is the largest among them.

8. Uranus

- Has the third-largest planetary radius and fourth-largest planetary mass in the Solar system.
- Greenish in colour.
- Discovered by William Herschel in 1781.
- Known as **"Ice Giant"**. The atmosphere of Uranus is composed of **Hydrogen and Helium** primarily, but it also contains more water, ammonia etc.
- It has the coldest planetary atmosphere in the solar system.
- **Rotates clockwise on its axis like Venus but unlike other planets**
- Has at least 27 moons. **Famous moons- Miranda, Ariel and Umbriel**

9. Neptune

- Farthest planet from the Sun.
- It is also **"Ice Giant"**. Atmosphere primarily composed of **Hydrogen and Helium**
- Bluish in colour because of Methane
- Fourth largest planet and the third most- massive planet in the solar system
- Has known 14 satellites. **Famous moon – Triton**

10. Pluto

- As per the new definition of Planets determined by International Astronomical Union (IAU), Pluto has been omitted from the list of planets in 2006.
- Pluto is considered a dwarf planet (size between planets and asteroids) now and it is a member of the Kuiper Belt.
- **Kuiper Belt is a spherical boundary outside the orbit of Neptune containing a number of asteroids, rocks, and comets**

Other Space Objects

1. Asteroids

- These are small objects; rocks (mostly debris) revolve around the Sun
- They are mostly found in the Asteroid Belt which lies between the orbits of Mars and Jupiter.
- These are also known as **Minor planets**
- **Ceres, Vesta, Psyche** are some famous and **largest asteroids** in the solar system.

2. Meteors and Meteorites

- These are also known as **Shooting stars**



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- Meteors are the small-sized rocky material which is generally formed due to asteroid collision and approaching the earth
- Because of Earth's atmospheric layers, these small rocks burn before reaching the surface.
- But there are some meteors which do not burn completely and land on Earth's surface. They are called Meteorites.
- **Willamette, Mbozi, Cape York, and El Chaco are some meteorites found on the Earth**
- **Lonar lake**, Maharashtra in India is supposed to be created by a meteor impact in Pleistocene Epoch

3. Comets

- These are shiny, luminous "**Tailed Stars**". These are rocky and metallic materials surrounded by frozen gases
- These are generally found in the Kuiper Belt. They travel towards the Sun
- Their tail faces opposite of the sun and head faces towards the Sun
- They become visible when they travel close to the Sun
- **Halley comet** is famous which appeared last time in 1986 and which reappears after every 76 years



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