

OUR UNIVERSE & SOLAR SYSTEM

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What is the Universe?

- The Universe consists of all the heavenly bodies such as the sun, the stars & many more celestial bodies such as planets, asteroids, satellites, comets, meteors, meteorite, etc.
- ब्रह्मांड में सभी खगोलीय पिंड जैसे सूर्य, तारे और कई अन्य खगोलीय पिंड जैसे ग्रह, क्षुद्र ग्रह, उपग्रह, धूमकेतु, उल्का, उल्का पिंड आदि शामिल हैं।

- It is possible to measure the size of the observable universe, which is approximately 93 billion light-years in diameter at the present day.
- अवलोकन योग्य ब्रह्मांड के आकार को मापना संभव है, जिसका व्यास वर्तमान समय में लगभग 93 अरब प्रकाश वर्ष है।

Nebula /निहारिका

- A nebula is a giant cloud of dust and gas in space. Nebulae are regions where new stars are beginning to form.
- निहारिका अंतरिक्ष में धूल और गैस का एक विशाल बादल है। निहारिकाएँ ऐसे क्षेत्र हैं जहाँ नए तारे बनने शुरू हो रहे हैं।



Galaxy / आकाश गंगा

- A galaxy is made up of millions or billions of stars and planets held together by gravity.
- One of these galaxies is our Milky Way.
- It is a spiral galaxy.
- एक आकाशगंगा गुरुत्वाकर्षण द्वारा एक साथ जुड़े लाखों या अरबों तारों और ग्रहों से बनी होती है।
- इन्हीं आकाशगंगाओं में से एक है हमारी आकाशगंगा।
- यह एक सर्पिल आकाशगंगा है.



Other Objects in the Solar System

Asteroids/ क्षुद्र ग्रह

- Asteroids are rocky and metallic objects that orbit the Sun but aren't large enough to be termed planets.
- क्षुद्रग्रह चट्टानी और धात्विक पिंड हैं जो सूर्य की परिक्रमा करते हैं लेकिन इतने बड़े नहीं होते कि उन्हें ग्रह कहा जा सके।

Meteorites/ उल्का पिंड

- The meteorites are made up of rock or dust make their way into the atmosphere.
- They come into contact with a lot of friction as they pass, which causes them to heat up and burn out.
- गुजरते समय वे बहुत अधिक घर्षण के संपर्क में आते हैं, जिससे वे गर्म हो जाते हैं और जल जाते हैं।



Comets/ धूमकेतु

- Comets are small icy objects with irregular shapes.
- When these objects approach the sun, the ice evaporates, leaving behind a lovely tail.
- जब ये वस्तुएं सूर्य के पास आती हैं, तो बर्फ वाष्पित हो जाती है, और पीछे एक सुंदर पूंछ छोड़ जाती है।



MCQs

1. The asteroids revolve round the Sun in between:
क्षुद्र ग्रह सूर्य के चारों ओर चक्कर लगाते हैं:

- a) Earth and Mars
- b) Mars and Jupiter
- c) Jupiter and Saturn
- d) Saturn and Uranus



2. Among the following planets, which is the brightest planet ?

- A Mercury
- B Venus
- C Mars
- D Jupiter



3. Which planet is called the red planet in our solar system ?

A Mercury

B Mars

C Jupiter

D Neptune



4. Which one of the following is known as "star nursery"?

निम्नलिखित में से किसे "स्टार नर्सरी" के रूप में जाना जाता है?

- a) Constellation
- b) Nebula
- c) Galaxy
- d) Corona



5. Which of the following is correct with respect to 'Great Bear' ?

- A Planet
- B Galaxy
- C Star
- D Constellation



6. Which is the largest constellation?

सबसे बड़ा तारामंडल कौन सा है?

- a) Hydra
- b) Virgo
- c) Ursa Major
- d) Hercules



7. Among the following planets, which is the hottest planet ?

- A Mercury
- B Venus
- C Mars
- D Jupiter



8. What is also known as shooting stars?
किसे टूटते तारे के नाम से भी जाना जाता है?

- a) Comets
- b) Asteroids
- c) Nebula
- d) Meteors



9. How many constellations are recognized officially?

कितने नक्षत्र मंडल को आधिकारिक तौर पर मान्यता प्राप्त हैं?

- a) 88
- b) 98
- c) 65
- d) 12



10. Which planet in our solar system is nearly as big as the earth ?

- a) Venus
- b) Pluto
- c) Mars
- d) Mercury



11. Which is the smallest planet of solar system?

- a) Uranus
- b) Jupiter
- c) Mercury
- d) Venus



12. Which is the farthest planet of solar system?

- a) Uranus
- b) Jupiter
- c) Mercury
- d) Venus





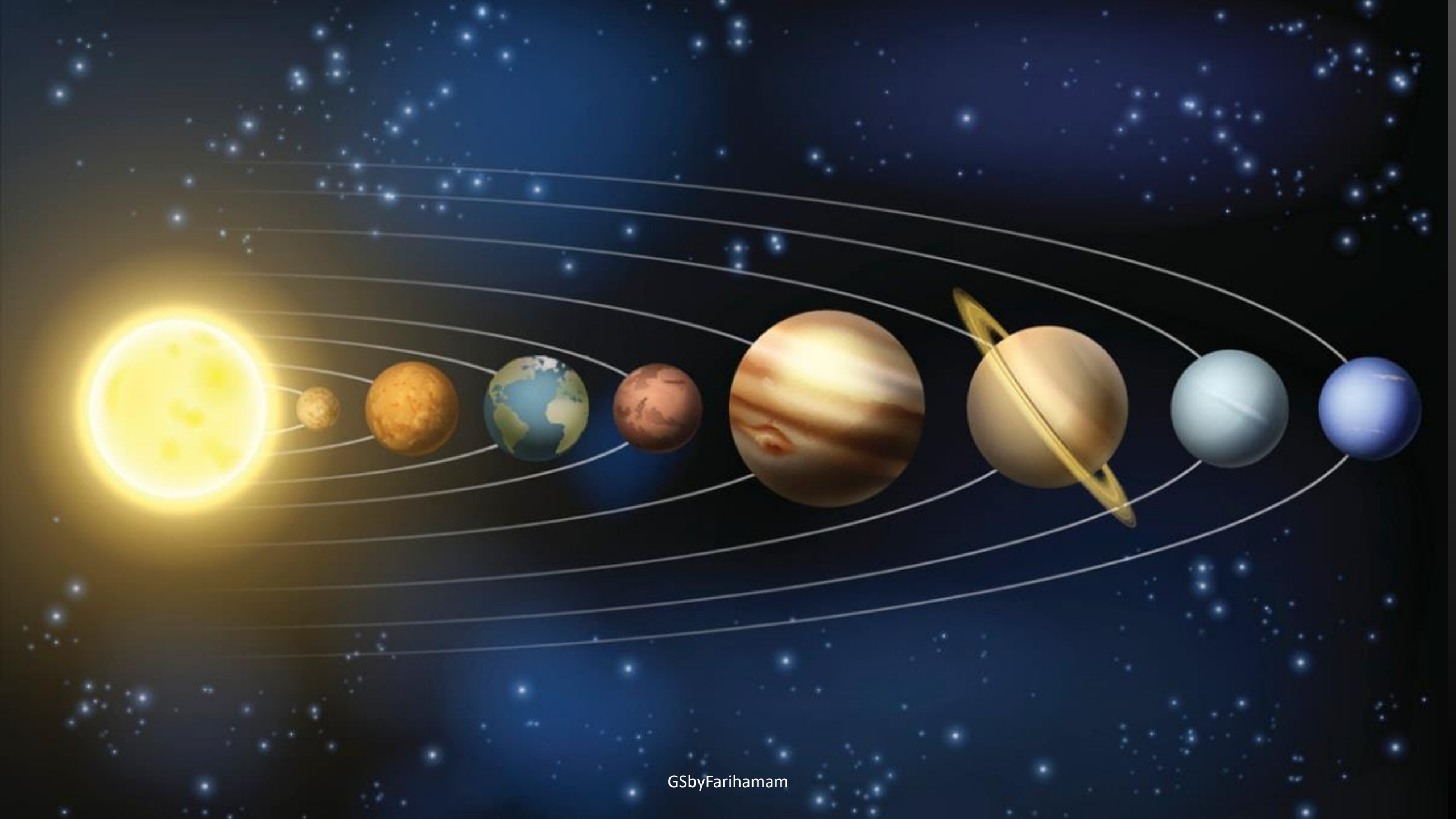
Planets

- The word planet means '*wanderer*'.
- Planets do not have any light of their own but reflect the light of the sun.

Conditions :

1. it says a planet must do three things: It must orbit a star (in our cosmic neighborhood, the Sun).
2. It must be big enough to have enough gravity to force it into a spherical shape.
3. It must be big enough that its gravity cleared away any other objects of a similar size near its orbit around the Sun.

- There are eight planets in our Solar System that are revolving around the Sun in elliptical orbits.
- The planets are generally divided into two parts i.e. “The Giant Planets/Jovian ” and “The Terrestrial Planets”.



Mercury

- It is the nearest planet to the sun.
- It is the smallest planet in our solar system.
- It can be observed just before sunrise or just after sunset, near the horizon.
- Mercury has no satellite/moon of its own.
- Fastest revolution time.

Venus

- It is the brightest planet in the night sky.
- It is the hottest planet.
- It is often called morning or evening star although it is not a star.
- Venus is considered the '**Earth's twin**' because its size and shape are very much similar to that of the earth.
- Venus has no moon or satellite of its own.
- It rotates from east to west while the Earth rotates from west to east.

Earth

- The Earth has only one moon.
- It is known as the Blue Planet.

Mars

- It is also known as the red planet.
- Mars has two small natural satellites or moons.

Jupiter

- It is the largest planet in the solar system.
- It has 79 moons .

Saturn

- It has 7 main rings.
- It has 145 moons or natural satellites.
- It is the least dense among all the planets.

Uranus

- It is called Green Planet because of the presence of Methane gas.
- Like Venus, Uranus also rotates from east to west.
- It has a total of 27 moons.

Neptune

- It is the Coldest planet and the windiest planet.
- There are 14 Satellites.
- At least 5 main rings are present.