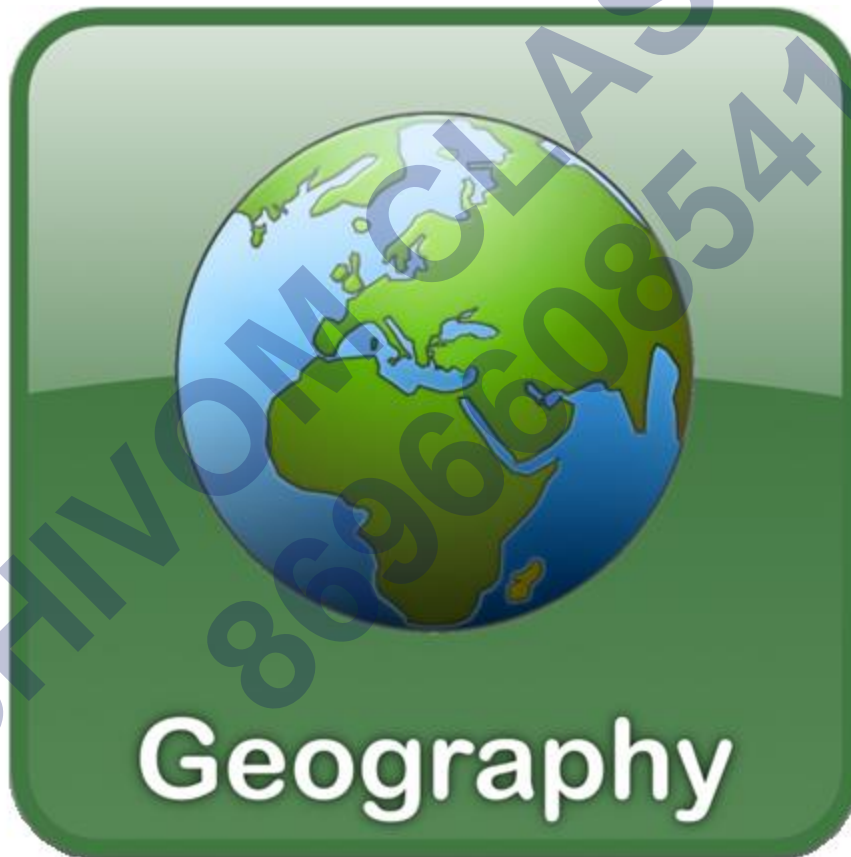


# GEOGRAPHY

## Chapter 1: The Earth In The Solar System



## The Earth In The Solar System

### Celestial Bodies

---

The Solar System is a family of eight planets, natural satellites, asteroids, meteoroids many other celestial bodies. Our Solar System is a part of the **Milky Way Galaxy**. Millions of galaxies make the **Universe**.

All the objects including the Sun and planets which shine in the sky at night are called **celestial bodies**.



All the objects in the sky are called celestial bodies.

These are also known as heavenly bodies. Some of the celestial bodies are:

#### The Sun

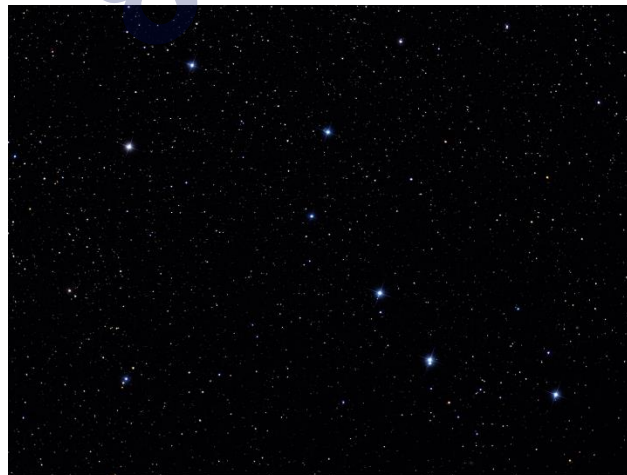
- It is in the centre of the Solar System.
- The Sun is the source of light and heat for the solar system.
- The Sun binds the entire solar system.
- It is made up of extremely hot gases.
- We do not feel the extreme heat of the Sun as it is far away from the Earth.
- The Sun is about 150 million kilometres away from the Earth.



**The Sun**

### The Stars

- Stars are hot and very big in size.
- They appear small to us as they are very far away from us.
- The Sun is a star.
- Stars have their own heat and light.
- Various patterns are formed by different groups of stars. These patterns are called constellations.
- Some known constellations are the Ursa Major (Big Bear) and the Saptarishi (Little Bear). Saptarishi is a group of seven stars which can be recognized easily and is part of the Big Bear.
- The North Star, also known as the Pole Star, indicates the north direction.
- In the ancient times, people tried to find out the location of places with the help of the Pole Star.



**Stars**

### The Moon

- The Moon is a natural satellite of the Earth.
- The Moon moves around the Earth in about 27 days. It takes the same time to rotate on its axis. This is the reason why only one side of the Moon is visible to us from the Earth.
- The Moon neither has water nor air. Thus, life is not possible on it.
- We can see the Moon only once in a month. This is called the full moon night or Purnima.
- About fifteen days after the full moon day, we are not able to see the moon. This is called New moon night or Amavasya.



**Full Moon**

### Satellites

Satellites are celestial bodies which move around the planets. The Moon is a natural satellite which revolves around the Earth. An artificial satellite is a man made satellite which is constructed by scientists to gather information about various planets including the Earth. Some of the artificial satellites are INSAT, EDUSAT etc.

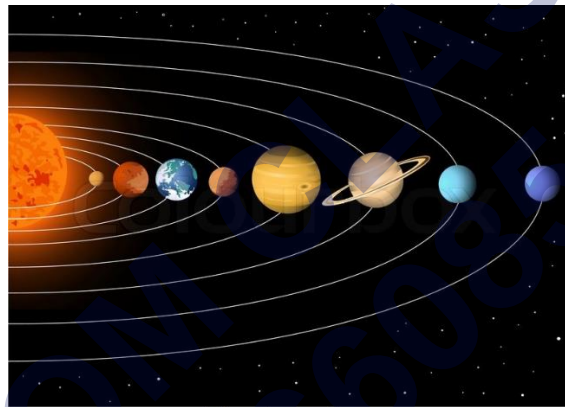


**An artificial satellite**

### Planets

- The word 'planet' comes from the Greek word 'planetai' which means 'wanderers'.

- There are eight planets in our Solar System, Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.
- Mercury is the planet nearest to the Sun and it takes only 88 days to revolve around the Sun.
- All the planets move around the Sun in fixed paths called orbits which elongated in shape.
- Venus is also known as the 'Earth's twin' as its shape and size are very much similar to the Earth.
- Jupiter is the largest planet in the Solar System.
- Pluto, which was the ninth planet, is now considered to be a dwarf planet.



The eight planets

### Difference between Stars and Planets

Stars	Planets
Stars have their own light.	Planets do not have the light of their own. They shine by reflecting the light of the Sun.
There are billions of stars in the sky.	There are only eight planets.
Stars twinkle	Planets do not twinkle
Stars have high temperatures.	Planets have low temperature.

### Earth

- The Earth is the third nearest planet to the Sun and the fifth largest planet in size.
- The Earth is a little flattened at the pole and therefore its shape is described as

Geoid.

- The Earth has water and air, which includes the life supporting gas oxygen, and thus it is the only planet which has conditions which favour life.
- Due to the above reasons, the Earth is known as the unique planet in the Solar System.
- As two third of the Earth's surface is covered with water, it appears blue from outer space. Thus, it is also known as the blue planet.



The Earth is also known as the blue planet as more than two thirds of its surface is covered with water

## Asteroids and Meteoroids

---

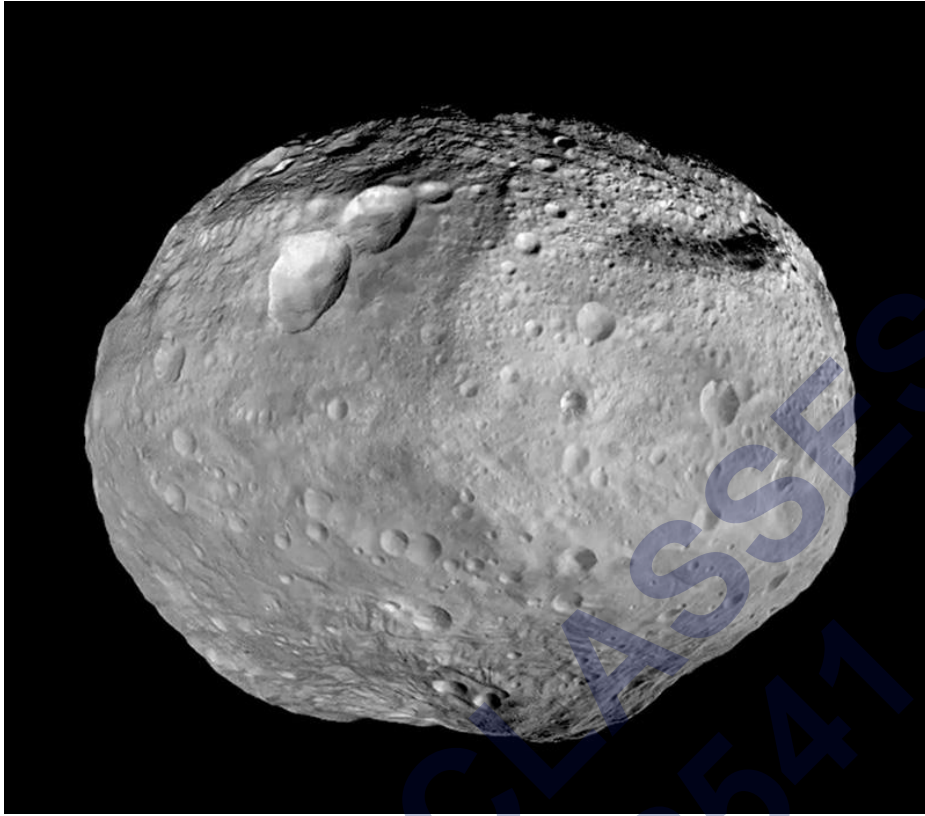
**Asteroids** are small bodies which move around the Sun. They are found between the orbits of Mars and Jupiter. Many scientists have claimed that these asteroids are the parts of a planet which might have exploded many years ago.

**Meteoroids** are small pieces of rock which revolve around the Sun. Sometimes, these meteoroids may come near the Earth. Most of them get burned as they enter the Earth's atmosphere due to friction. At times they may strike the Earth's surface creating a hollow depression on the ground.



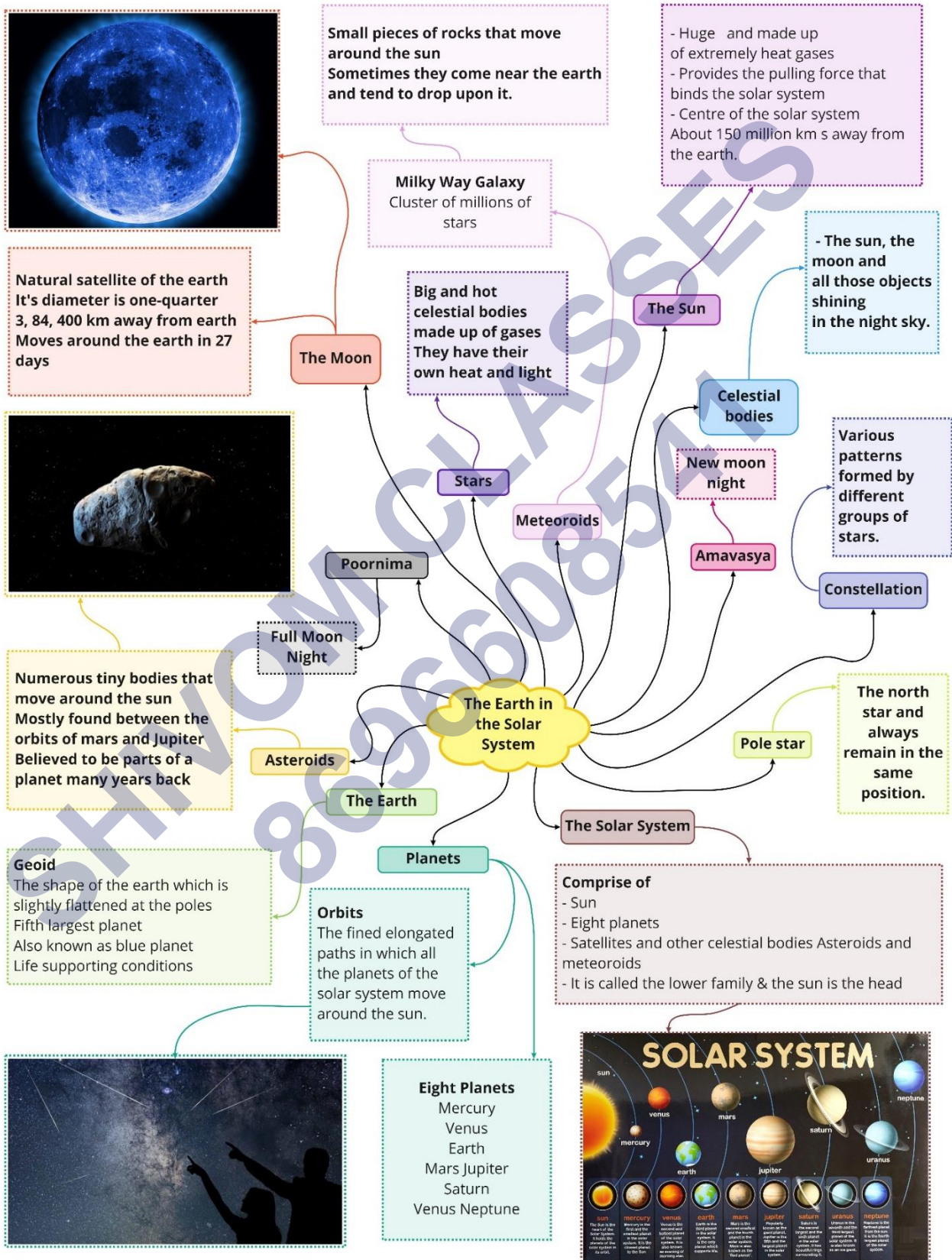
**A meteorite**





Asteroids

Class : 6th Social Studies (Political Science)  
Chapter - 1 : The Earth in the Solar System





## Important Questions

### ➤ Multiple Choice Questions:

Question 1. Which is the recently located planet?

- (a) Pluto
- (b) Mars
- (c) Earth
- (d) Uranus major

Question 2. What is ultimate source of heat and light for the planets?

- (a) Pluto
- (b) Sun
- (c) Moon
- (d) Ursa Major

Question 3. Which among the following is an constellation?

- (a) Ursa Major
- (b) Pluto
- (c) Earth
- (d) Mars

Question 4. Which is the third nearest planet to the Sun?

- (a) Mars
- (b) Saturn
- (c) Pluto
- (d) Earth

Question 5. Name the natural satellite of the Earth?

- (a) Saturn
- (b) Moon
- (c) Sun
- (d) Mars

Question 6. How does the moon shine

- (a) Have their own natural light

- (b) Reflects the Venus light
- (c) Reflects the earth light
- (d) Reflects the sunlight

Question 7. What is the orbital period of the Moon?

- (a) 25 days
- (b) 27.32 days
- (c) 28 days
- (d) 29 days

Question 8. The Stars are not visible during the day because

- (a) Of their self-illumination
- (b) Stars are far away from the earth
- (c) Sun light is very bright
- (d) Their size is large

Question 9. Moon appears big because

- (a) It is very big than the earth
- (b) It is bigger than the sun
- (c) It is near to the earth
- (d) It is far away from the earth

Question 10. Which star is the head of the solar system

- (a) Earth
- (b) Moon
- (c) Sun
- (d) Big bear

Question 11. Which is the closest planet to the Sun

- (a) Earth
- (b) Venus
- (c) Mars
- (d) Mercury

Question 12. Which is the brightest planet in the universe?

- (a) Mercury

- (b) Venus
- (c) Earth
- (d) Saturn

Question 13. Which is the nearest star to the earth

- (a) Mercury
- (b) Moon
- (c) Venus
- (d) Sun

Question 14. All the planets move around the sun in an \_\_\_\_\_

- (a) Rectangular path
- (b) Straight path
- (c) Elliptical path
- (d) Circular path

Question 15. Why is the earth called as Blue Planet?

- (a) Air colour is blue
- (b) Land colour is blue
- (c) Building having blue colour
- (d) Two-third surface is covered by water

➤ **Fill in the blanks:**

1. The North Star indicates the \_\_\_\_\_ direction.
2. The sun is in the \_\_\_\_\_ of the solar system.
3. We can see the full moon only once in about a \_\_\_\_\_ time.
4. Full moon night is also known as \_\_\_\_\_.
5. Ursa Major or Big Bear is a \_\_\_\_\_.
6. \_\_\_\_\_ was a famous astronomer of ancient India.

➤ **Write true (T) or false (F):**

1. All the planets move around the sun in an elongated path.
2. It is huge and made up of extremely hot liquids.
3. The word 'planet' comes from the Greek word "Planetai" which means 'wanderers'.
4. The moon is in the centre of the solar system.

5. Till recently (August 2006), Pluto was also considered a planet.
6. Word geography is made of two Greek words, 'ge' meaning 'earth' and 'graphia' meaning 'writing'.

### ➤ Very Short Questions:

1. How long does it take to go from a new moon to a full moon?
2. Name few dwarf planets.
3. Which is the third nearest planet to the sun?
4. Which is the closest celestial body to our earth?
5. Name the natural satellite of the earth?
6. Where are the most asteroids found?
7. How many times can we see full moon in a month time?
8. How long does it take for the moon to complete one revolution?
9. What is a geoid?
10. Why do the stars look so small in the sky?
11. From where does Earth receive heat and light?
12. What is the speed of light?
13. How much time light takes to reach the earth?
14. Who are called astronomers?
15. What cast shadow on the moon?

### ➤ Short Questions:

1. Write a short note on asteroids.
2. Name all the planets according to their distance from the sun.
3. What is meant by the 'Solar System'?
4. What are stars?
5. Why do we see only one side of the moon always?

### ➤ Long Questions:

1. Why the Earth is called a unique planet?
2. Despite being our nearest star, the tremendous heat of the sun is not felt so much. Why?
3. Write a short note on Sun.

4. How do meteoroids burn up?
5. Write about Human-made Satellite?

### ANSWER KEY –

#### ➤ Multiple Choice Answer:

1. (a) Pluto
2. (b) Sun
3. (a) Ursa Major
4. (d) Earth
5. (b) Moon
6. (d) Reflects the sunlight
7. (b) 27.32 days
8. (c) Sun light is very bright
9. (c) It is near to the earth
10. (c) Sun
11. (d) Mercury
12. (b) Venus
13. (d) Sun
14. (c) Elliptical path
15. (d) Two-third surface is covered by water

#### ➤ Fill in the blanks:

1. north
2. centre
3. month's
4. Poornima
5. constellation
6. Aryabhata

#### ➤ Write true (T) or false (F):

1. True
2. False
3. True



4. False
5. True
6. True

➤ **Very Short Answer:**

1. A fortnight.
2. Pluto, Ceres, 2003 and UB313
3. Earth is the third nearest planet to the sun.
4. The moon is the closest celestial body to our earth.
5. Moon is the natural satellite of the earth.
6. They are found between the orbits of Mars and Jupiter.
7. We can see the full moon only once in about a month's time.
8. The moon moves around the earth in about 27 days.
9. A sphere with its ends flattened at poles (just like earth) is called geoid.
10. The stars look so small in the sky because they are very far from us.
11. Earth gets all its heat and light from the sun, which is its nearest star.
12. Light travels at the speed of about 300,000 km per second.
13. The light of the sun takes about eight minutes to reach the earth.
14. Those who study the celestial bodies and their movements are called astronomers.
15. It has mountains, plains and depressions on its surface. These cast shadows on the moon's surface.

➤ **Short Answer:**

1. There are numerous tiny bodies which also move around the sun. These bodies are called asteroids. They are found between the orbits of Mars and Jupiter.
2. There are eight planets in our solar system. In order of their distance from the sun, they are: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.
3. The sun, eight planets, satellites and some other celestial bodies known as asteroids and meteoroids form the solar system. We often call it a solar family, with the sun as its Head.
4. Some celestial bodies are very big and hot. They are made up of gases. They have their own heat and light, which they emit in large amounts. These celestial bodies are called stars. The sun is a star.
5. The moon moves around the earth in about 27 days. It takes exactly the same time

to complete one spin. As a result, only one side of the moon is visible to us on the earth.

### ➤ Long Answer:

1. Conditions favourable to support life are probably found only on the earth. The earth is neither too hot nor too cold. It has water and air, which are very essential for our survival. The air has life-supporting gases like oxygen. Because of these reasons, the earth is a unique planet in the solar system.
2. The sun is the ultimate source of heat and light for the solar system. But that tremendous heat is not felt so much by us because despite being our nearest star, it is far away from us. The sun is about 150 million km away from the earth.
3. The sun is in the centre of the solar system. It is huge and made up of extremely hot gases. It provides the pulling force that binds the solar system. The sun is the ultimate source of heat and light for the solar system.
4. Sometimes these meteoroids come near the earth and tend to drop upon it. During this process due to friction with the air they get heated up and burn. It causes a flash of light. Sometimes, a meteor without being completely burnt, falls on the earth and creates a hollow.
5. A Human-made Satellite is an artificial body. It is designed by scientists to gather information about the universe or for communication. It is carried by a rocket and placed in the orbit around the earth. Some of the Indian satellites in space are INSAT, IRS, EDUSAT, etc.