

UNIT 1- GEO - The Universe and Solar System

Class: VI

Subject: Social Science

A. Fill in the blanks

1. The Universe was formed after Big Bang explosion.
2. A light year is the unit used to measure the distance between two celestial bodies.
3. The sun is the centre of the solar system.
4. The word planet means Wan derer .
5. Jupiter planet has many natural satellites.
6. India's first ever mission to the moon is Chandrayan-I
7. Earth is inclined 23 1/20 by degrees
8. The Equator faces the Sun directly on 21 March and 23 September.
9. At the time of Perihelion, the Earth is Closest to the Sun.
10. The line which divides day and night on the Earth's surface is Terminator Line.

B. Choose the best answer

1. The movement of the Earth on its axis is called
a. Revolution b. Seasons **c. Rotation** d. Circulation
2. The Tropic of Capricorn faces the Sun directly on
a. March 21 b. June 21 c. September 23 **d. December 22**
3. The galaxy in which our solar system is found is
a. Andromeda b. Magellanic clouds **c. Milky Way** d. Starburst
4. The only celestial body where man has successfully landed

a. Mars **b. Moon** c. Mercury d. Venus

5. Which of the following planets can float on water?

a. Jupiter **b. Saturn** c. Uranus d. Neptune

C. Mark the odd one out

1. **Venus**, Jupiter, Neptune, Saturn
2. **Sirius**, Andromeda, Milky way, Magellanic clouds
3. Pluto, Eris, Ceres, **Io**
4. Comet, Asteroids, Meteorites, **Dwarf planets**
5. Rover, Orbiter, **Aeroplane**, Space shuttle

D. Match the following

- | | | | |
|-------------------------|---|------------|-----|
| 1. Hottest Planet | - | a. Mars | [3] |
| 2. Ringed Planet | - | b. Neptune | [5] |
| 3. Red Planet | - | c. Venus | [1] |
| 4. Somersaulting Planet | - | d. Saturn | [2] |
| 5. Coldest Planet | - | e. Uranus | [4] |

E. i) Consider the following statements

1. Venus rotates from east to west.
2. The Tropic of Cancer faces the Sun on June 21.
3. Mars has rings around it.

Choose the correct answer using the codes given below.

a. **1 and 2** b. 2 and 3 c. 1, 2 and 3 d. 2 only

ii) Which of the statement(s) is/are true?

Statement I: Earth is called a watery planet

Statement II: The rotation of the Earth causes seasons.

- a. I is true; II is wrong
- b. I is wrong; II is true
- c. Both the statements are true
- d. Statements I and II are wrong.**

F. Name the following

1. Cluster of stars. **Galaxy**
2. The nearest galaxy to the solar system. **Andromeda**
3. The brightest planet. **Venus**
4. The living sphere. **Biosphere**
5. The year which has 366 days. **Leap Year**

G. Answer in brief

1. Name the inner planets.

The four planets nearer to the Sun are called Inner or Terrestrial Planets (Mercury, Venus, Earth and Mars).

2. Pluto is no longer a planet. Reason out.

- ❖ Dwarf planets are small celestial bodies found beyond the planet Neptune.
- ❖ They are extremely cold and dark. They are almost spherical in shape, but unlike planets they can share their orbit with other dwarf planets.
- ❖ The five dwarf planets of the solar system are Pluto, Ceres, Eris, Makemake and Haumea.

3. What is perihelion?

Perihelion is the Earth's closest position to the Sun.

4. How many times in a year would you find the Sun overhead if you lived on 20°N Latitude?

The equator faces the Sun directly on 21 March and 23 September. These two days are called Equinoxes, during which the day and night are equal throughout the Earth.

5. Which celestial body shares its orbit with others? Give an example.

Dwarf planets share their orbit with others. Ex: Pluto

H. Give reasons

1. Why is Uranus called the somersaulting planet?

- Uranus axis is tilted so much that, it appears to orbit the Sun on its sides like a rolling ball.
- So, It's called somersaulting planet.
- Uranus has 27 natural satellites, of which Titania is the largest.

2. The surface of the moon has many craters.

The surface of the moon is characterized by craters created by the impact of meteors.

3. The velocity of the Earth's rotation is zero at poles.

The exact tip of the earth's pole moves very very slow so the velocity is zero at pole

I. Answer in detail

1. Distinguish between inner and outer planets.

Inner planets:

- The four planets nearer to the Sun are called Inner or Terrestrial Planets (Mercury, Venus, Earth and Mars).
- The inner planets are comparatively smaller in size and are composed of rocks. The surface of inner planets has mountains, volcanoes and craters.

Outer planets:

- The last four planets are called as Outer Planets or Jovian Planets (Jupiter, Saturn, Uranus, and Neptune).
- They are also called Gaseous Giants. An asteroid belt is found between Mars and Jupiter.

2. What are the effects of rotation and revolution?

Rotation:

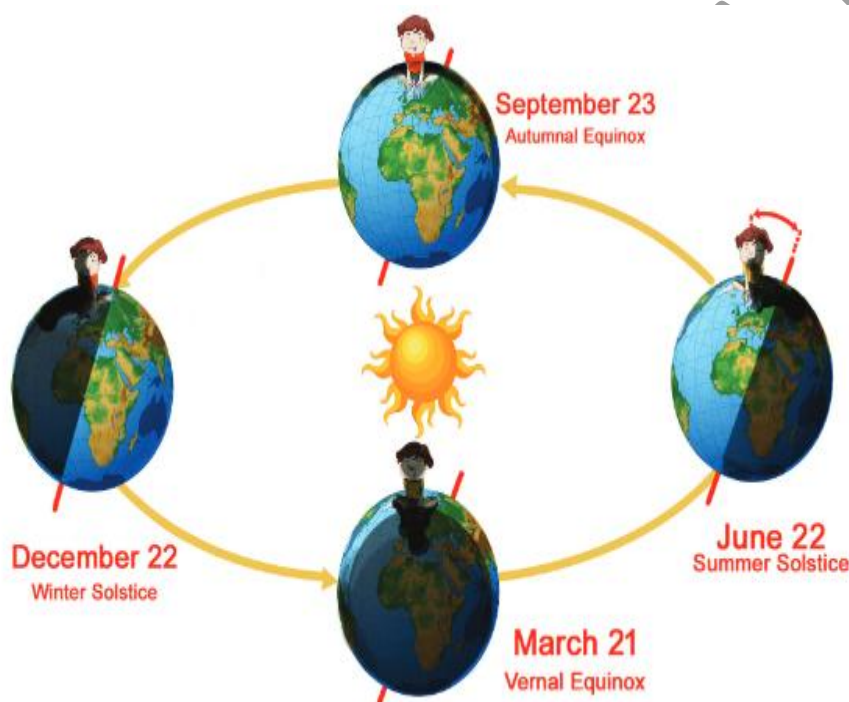
- ✚ Rotation is the spinning movement of the Earth on its axis.



- ✚ The time taken by the Earth to complete one rotation is called a day.
- ✚ The rotation of the Earth causes day and night.
- ✚ The line which divides the surface of the Earth into a lighted half and a dark half is called the Terminator Line

Revolution.

- ✚ It is the movement of the Earth around the Sun on its elliptical path. The Earth takes $365 \frac{1}{4}$ days to complete one revolution.
- ✚ For the sake of convenience, we take it as 365 days and call it a year.
- ✚ The remaining quarter day is added once in every four years in the month of February. That is why February has 29 days once in four years.
- ✚ It is called a Leap Year. The inclination of the Earth on its axis and its revolution around the Sun cause different seasons.



3. Explain the characteristics of the various spheres of the Earth.

Spheres of the Earth

- ❖ The Earth is the most suitable planet to support life.
- ❖ It has three major components that we call as the realms of the Earth- lithosphere, hydrosphere and atmosphere.
- ❖ All living things exist in a narrow zone called the biosphere.

Lithosphere

- ❖ Lithos means rocky.

- ❖ The Lithosphere is the land on which we live.
- ❖ It is the solid outer layer of the Earth consisting of rocks and soil.

Hydrosphere

- ❖ The word Hydro means water in Greek.
- ❖ The hydrosphere consists of water bodies such as oceans, seas, rivers, lakes, ice caps on mountains and water vapour in the atmosphere.

Atmosphere

- ❖ The word Atmosphere means air in Greek. Atmosphere is the envelope of air that surrounds the Earth.
- ❖ Different types of gases make up the atmosphere.

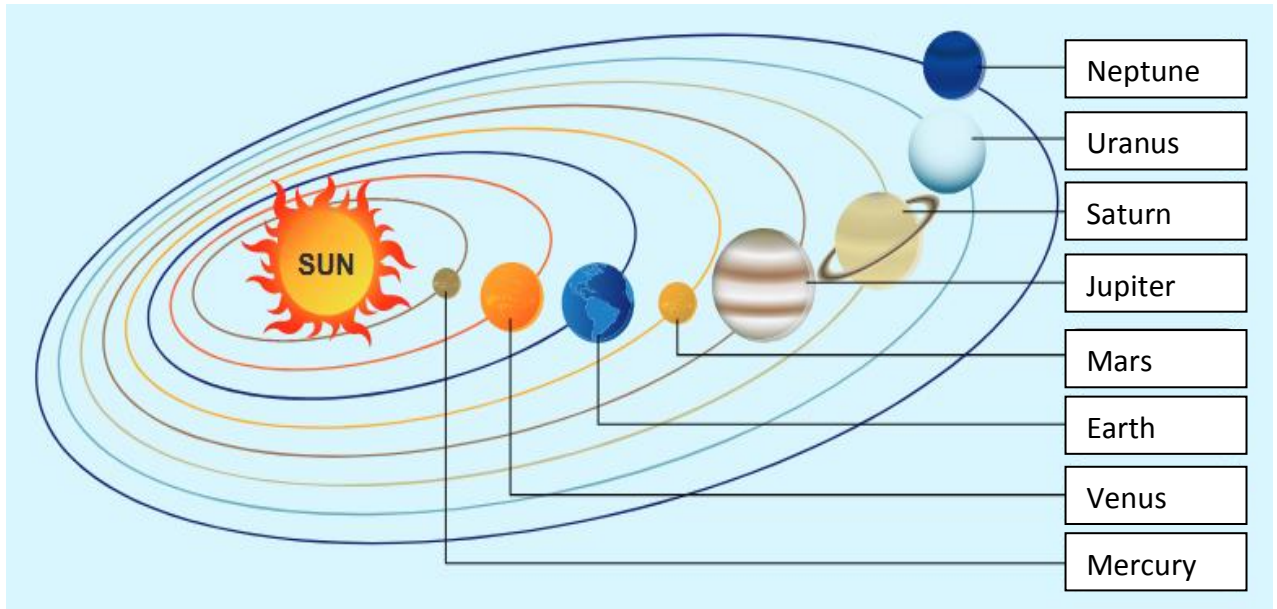
Biosphere

- ❖ The narrow belt of interaction among the lithosphere, the hydrosphere and the atmosphere, where life exists is known as Biosphere.

J. Picture Study

1. Study the picture and answer the given questions.

- Which is the closest planet to the Sun? **Mercury.**
- Which is the largest planet? **Jupiter.**
- Which is the farthest planet from the Sun? **Neptune.**
- Which is the second smallest planet? **Mars.**



2. Look at the picture and answer the questions given below.

- Identify the planet **Uranus**
- What is the colour of the planet? **Green**
- Why is it of this colour? **Due to the presence of Methane.**

