



Chapter-12

Beyond the Earth

Q.1 Write the summary of the chapter in the flow chart below, using the hints givebelow:

1. Celestial Object	2. Constellation	3. Galaxy
4. Asteroid	5. Comet	6. Meteor

- Celestial Object:** Objects which are present in the sky are known as celestial or heavenly objects. eg. stars, planets etc.
- Constellation:** stars forming a group that resembles objects on earth is called a constellation.
- Galaxy:** A duster of millions of stars, gas, dust comprises a galaxy. eg. Milky way
- Asteroid:** Rocky and metallic materials orbiting the sunbetween the planets Mars and Jupiter
- Comet:** These are made of rock, ice and dust and develop a tail when they come near sun.
- Meteor:** These are rocky or metallic pieces which wonder in space and when they come near earth, They fall as shooting stars.

Q2. Multiple Choice Questions

- d) Sirius
- c) Nakshatra
- c) II and III only
- d) August 23rd
- b) Mars, Earth, Mercury, Saturn

Q3. Fill in the blanks:

- Mercury is the smallest planet in our solar system.
- Our solar system is a part of Milky Way galaxy.
- The stars appear to move from East to west due to rotation of the earth.
- The moon is a Natural satellite of the earth.
- Outer planets are Jupiter, Saturn, Uranus and Neptune.

Q4. State whether the statements are 'True' or 'False'.

- The inner planets are known as Jovian planets. **False**
- The group of stars which seem to form a pattern are called asteroids. **False**
- The constellation Orion is also named as hunter. **True**
- The moon is the brightest star in the sky. **False**

5. Comets develop a tail near sun. **True**

Q5. Give one word for the following:

1. Another name of constellation in Indian astronomy. **Nakshatra**
2. Device used to observe stars which are not visible to the naked eye. **Telescope**
3. Planet in the solar system on which life exist. **Earth**
4. The planet that has density less than that of water. **Saturn**
5. A heavenly body that orbits around large object such as a planet **Satellite**

Q6 Match the columns:

Match the columns and choose the correct option

1.

	Column I		Column II
A	Pole star	Q	Dhruv Tara
B	Ursa major	P	Vrihat Saptarishi
C	Ursa minor	S	Laghu saptarishi
D	Sun	R	Surya

2.

	Column I		Column II
A	Mercury	S	Budha
B	Earth	P	Prithvi
C	Saturn	Q	Shani
D	Jupiter	R	Brihaspati

Q7. Assertion and Reason Questions

Choose the correct options

1. **Assertion (A):** Planets are the heavenly bodies that revolve around the Sun.
Reason (R): The time taken by a planet to complete one revolution is called its period of revolution.
Ans (A) Both the assertion and reason are true, and the reason is the correct explanation.
2. **Assertion (A):** Stars appear to move from East to West.
Reason (R): Earth moves from West to East.
Ans (A) Both the assertion and reason are true, and the reason is the correct explanation.

Q8. Very Short Answer Questions

1. **Name the star nearest to our Earth.**
Sirius
2. **What constitutes solar system?**
The sun, planets and their satellites
3. **Name the planets in increasing order of distance from the Sun.**
Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune

4. **It is found that in a big city, sky is rarely clear and very few stars are visible. Why?**
Lots of pollution.
5. **Name few organizations that conduct night sky watching activities.**
NASA, SPACE India, starscapes, sky gaze

Q9. Short Answer Questions

1. **Venus is known as the “morning star” and “evening star”. Give reason.**
As it is visible early morning and late evening
2. **Differentiate between Stars and constellations.**
Stars are heavenly bodies having their own heat and light while constellations are groups of stars forming shapes.
3. **How will you locate pole star once you identify Big Dipper?**
Locate two stars at the end and imagine a line passing through them. Extend it in north sky and you will locate north star
4. **Describe Sun. Give its composition.**
Sun is a hot star of our solar system. It has 75% Hydrogen and 25% Helium with some heavier elements
5. **Define:**
 - a) **comet**
A comet is a frozen rocky body which develops a tail near sun
 - b) **constellation**
Constellations are group of stars which form shapes.

Q10. Long Answer Questions

1. **Our Solar system belongs to which galaxy? Explain.**
Milky way. It is a spiral galaxy with millions of stars. It has rotating disk of spiral arms with sun located in the orion arm
2. **Describe Orion. Draw neat and labelled diagram.**
Orion is a prominent constellation it is also known as hunter. It has three stars at the centre which represent the belt of the hunter



Q11. Use a sky map or an app that shows the night sky and locate the Big Dipper

Find the two stars at the end of the Big Dipper's "cup" and imagine a line extending from them towards the North. Locate the star along this line, which is the Pole Star.

Once you have identified the Pole Star, try to find the approximate North direction from your location.

a) **What is the name of the constellation that includes the Big Dipper?**

The Big Dipper is part of the Ursa Major constellation.

B) **How does the Pole Star Help in determining direction?**

The Pole Star always points to the North, helping people determine the North direction

c) **Why the Pole star remains stationary in night sky while other stars apperas to move?**

Since Earth rotates on its axis, other stars appear to move in circular paths around but the pole star stays nearly fixed in place. This happens because the pole star with earth's rotation axis, so it does not seem to move while other stars do.

Q12. Unjumble the words given in column II and write them in space provided with the help of hints in column I, then match the columns:

Column I	Column II
1.	Comet
2.	Saturn
3.	Big Dipper
4.	Moon
5.	Sirius

Q13. Fun Activity

Across		Down	
2.	The planet that has the largest known volcano, Olympus Mars.	1.	The Seventh planet away from the Sun.
5.	The larget planet in the solar system.	3.	The natural, large round object in space that moves around a star.
6.	The closest planet tothe sun.]	4.	The name of the galaxy that contain our Solar System.
10.	The system of planets and other objects (moon, asteroids, comets, and meteoroids) that travels around the Sun.	7.	The largest nature satellite in our solar system.
13.	The primary force that keeps the planets orbiting around the Sun.	8.	The farthest planet from the Sun in our Solar System.
14.	The planet that has the largest ring system in the Solar System.	9.	Earth's only natural satellite.
15.	The brightest planet in the night sky.	11.	The star at the center of our solar system.
		12.	The only planet in the solar system known to possess life.