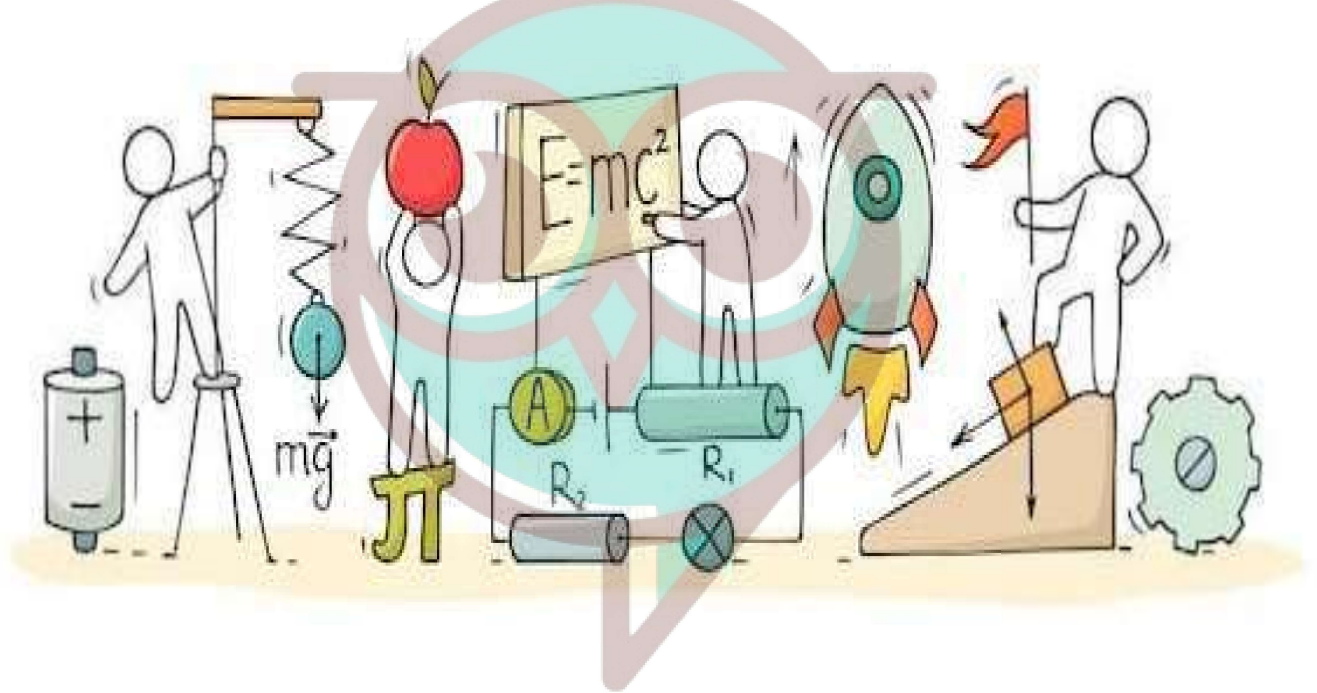


SCIENCE

Chapter 17: Stars and the Solar System



Swotters

Important Questions

Multiple Choice questions-

Question 1. Which of the following does not belong to the family of solar system?

- (a) Planet
- (b) Galaxy
- (c) Meteors
- (d) Comet

Question 2. The Halley's Comet is seen after every

- (a) 76 months
- (b) 76 years
- (c) 56 months
- (d) 56 years

Question 3. Ursa Major is a

- (a) star
- (b) constellation
- (c) seen only with telescope
- (d) satellite

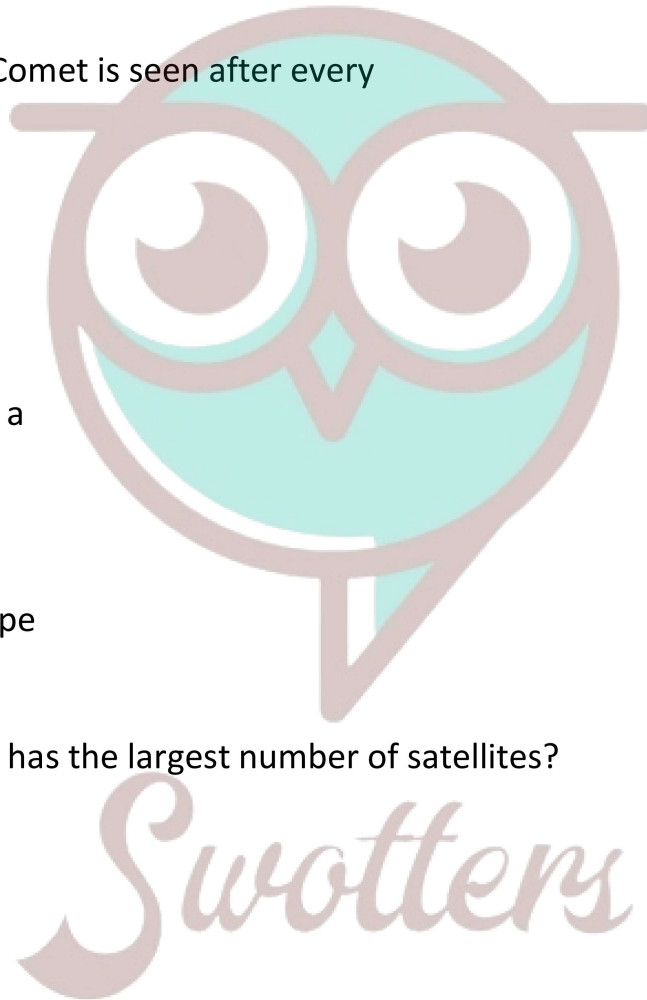
Question 4. Which planet has the largest number of satellites?

- (a) Jupiter
- (b) Saturn
- (c) Mercury
- (d) Mars

Question 5. Which unit is used to measure astronomical distances?

- (a) Leap year
- (b) Light year
- (c) Century
- (d) Sound year

Question 6. The stars forming a recognizable shape is called



- (a) constellation
- (b) system
- (c) galaxy
- (d) asteroids

Question 7. Which star is nearest to Earth?

- (a) Pole star
- (c) Orion
- (b) Cassiopeia
- (d) Sun

Question 8. What term is used for celestial bodies that revolve around the Sun in highly elliptical orbit?

- (a) Comet
- (b) Meteors
- (c) Asteroids
- (d) Planets

Question 9. Which small objects revolve between the orbits of Mars and Jupiter?

- (a) Satellites
- (b) Comets
- (c) Asteroids
- (d) Meteorites

Question 10. Which planet is called morning star or evening star?

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

Question 11. Our galaxy is known as

- (a) Earth galaxy
- (b) Sun galaxy
- (c) Milky Way



(d) Constellation

Question 12. Which of the following is not a planet?

(a) Mercury

(b) Saturn

(c) Jupiter

(d) Great bear

Question 13. Orion is a

(a) constellation

(b) star

(c) planet

(d) satellite

Question 14. Shooting stars are called

(a) asteroids

(b) galaxies

(c) meteors

(d) andromeda

Question 15. The planet farthest from the Sun is

(a) Uranus

(b) Neptune

(c) Saturn

(d) Mercury



Swotters

Very Short Questions :

1. Name the planet appears in the northern sky before sunrise?
2. Name the planet which has 28 moons?
3. In which direction stars move except Polar star?
4. Why pole star appears stationary?
5. Which two planets have asteroids between them?
6. Which comet visits the earth after 76 years?
7. What happens to meteors when enters the earth's atmosphere?
8. What is the high tog geostationary satellite from the earth surface?

9. What does term INSAT mean?
10. Name the first Indian satellite launched successfully.

Short Questions :

1. What do you mean by celestial objects. Explain with examples?
2. Why can't we hear any kind of sound on moon?
3. Define the following:
 - (a) Moon
 - (b) Stars
4. Differentiate between planet and stars.
5. Differentiate between moon and stars.
6. Name the person who landed on the moon for the first time along with the date at which he landed there for the first time.
7. Write some characteristics of stars.
8. Why we are not able to see the stars during the day time?
9. Why stars appear to move from east to west?
10. Define constellation along with some examples.

Long Questions :

1. What is the solar system? Explain.
2. What makes life possible on planet Earth?
3. Differentiate between the following:
 - (a) Star and planet
 - (b) Asteroid and comet
 - (c) Meteoroid and comet
 - (d) Galaxy and constellation
4. Write few lines about every planet of the solar system.
5. Explain why do we see phases of moon.

ANSWER

MCQ Answer:

1. Answer: (b) Galaxy
2. Answer: (b) 76 years

3. Answer: (b) constellation
4. Answer: (b) Saturn
5. Answer: (b) Light year
6. Answer: (a) constellation
7. Answer: (d) Sun
8. Answer: (a) Comet
9. Answer: (c) Asteroids
10. Answer: (a) Venus
11. Answer: (c) Milky Way
12. Answer: (d) Great bear
13. Answer: (a) constellation
14. Answer: (c) meteors
15. Answer: (b) Neptune

Very Short :

1. **Answer:** Venus brightest of all planets.
2. **Answer:** Jupiter mainly consists of hydrogen and helium gases
3. **Answer:** When seen from earth stars appears to move from east to west.
4. **Answer:** As it lies on the imaginary axis of the rotation of the earth.
5. **Answer:** asteroids are the rocks pieces that revolve around the sun between the orbit of Mars and Jupiter.
6. **Answer:** Halley's Comet. Heavenly bodies that revolve around the sun and appears as bright as the glowing ball with a long tail is called a comet.
7. **Answer:** meteors when enters the earth's atmosphere starts glowing and are seen as a bright streak of light flashing momentarily across the sky.
8. **Answer:** 36000km and used for satellite communications.
9. **Answer:** Indian National Satellite.
10. **Answer:** Aryabhata on 19 April 1975

Short Answer :

1. **Answer:** The stars the planets and many other objects in the sky are called celestial objects. For example: moon, nine planets, asteroids etc.
2. **Answer:** Moon has no atmosphere and as we know sound cannot travel when there is no

medium thus we cannot hear any kind of sound on the moon.

3. Answer:

(a) Moon: Moon is a celestial object that does not have its own sunlight; it is visible to us due to reflected sunlight. There is no atmosphere and water on the moon, its surface is dusty and barren. Moon revolves around the earth so it is also called the natural satellite of earth.

(b) Stars: Stars are other celestial object that can be seen in the night sky. Sun is the nearest star from the Earth; the stars are millions of times farther than the sun, STARS are present in the sky during the day time also but because of the bright sunlight they are not visible to us. They appear to move from east to west in the sky.

4. Answer:

Planet	Star
(i) Have no light of their own. (ii) Do not twinkle. (iii) Most planets on the other hand are near enough to the earth to be magnified by the telescope. (iv) Planets have low temperatures (v) There are only nine planets in the solar system.	(i) Have their own light. (ii) Twinkles at night. (iii) Since the stars are very far away, the telescope can only make them look brighter but not larger (iv) A star has very high temperature. (v) There are billions of stars in the celestial sphere

5. Answer: A moon is simply a natural satellite that moves around a planet, tied gravitationally to its parent planet. But a star is a large mass of gas that generates energy due to the thermonuclear fusion reactions happening at their cores. They range in size from a few kilometres in diameter to several times larger than the solar system. They form large collections that make up star clusters and galaxies.

6. Answer: On July 21, 1969 the American astronaut, Neil Armstrong landed on the moon for the first time.

7. Answer: Some characteristics of stars are as follows:

- I. Have their own light.
- II. Twinkles at night.
- III. Since the stars are very far away, the telescope can only make them look brighter

but not larger

- IV. A star has very high temperature.
- V. There are billions of stars in the celestial sphere

8. **Answer:** We are not able to see the stars during the day time because of the bright sunlight.
9. **Answer:** Earth rotates on its axis from west to east, thus stars appear to move from east to west.
10. **Answer:** Group of stars having a recognisable shape is called constellation. Constellation is an internationally defined area of celestial sphere. For example: Ursa Major, Orion etc.

Long Answer:

1. Answer:

The sun along with the eight planets, the moons, and other heavenly bodies form the solar system. Our solar system is a part of the milky way galaxy. The sun is at the centre of the solar system around which all other planets rotate. Except Mercury and Venus, remaining six planets have their natural satellite revolving around them in a particular orbit. In our solar system, Earth is the only planet having life. This is due to the hostile conditions available in it. Sun is the ultimate source of energy for sustenance of life on the Earth.

2. Answer:

Some special environmental conditions responsible for the existence and continuation of life on the Earth are:

- Right distance from the Sun
- Right temperature range
- Presence of water
- Presence of oxygen and hostile atmosphere
- Presence of a blanket of ozone

3. Answer:

(a) Star and planet

Star	Planet
I. Star twinkles in the sky	I. Planet do not twinkle in the sky.
II. It has its own light.	II. It has no light.
III. It is fixed at a point.	III. It revolve around the sun.
IV. It is very big in size.	IV. It is very small compared

	to the star.
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(b) Asteroid and comet

Asteroid	Comet
I. Asteroids are made up of metals and rocky material.	I. Comets are made up of ice, dust and rocky material.
II. It rotates nearer to the sun.	II. It rotates farther from the sun.
III. It does not has any tail of volatile material.	III. It has tail of volatile gases when passing close to the sun.

(c) Meteoroid and comet

Meteoroid	Comet
I. It is a small particle from a comet or asteroid orbiting the sun.	I. It is made up of ice, dust and rocky material.
II. It enters the Earth's atmosphere.	II. It does not enter the Earth's atmosphere.

(d) Galaxy and constellation

Galaxy	Constellation
I. It is a collection of billions of star.	I. It is a collection of only a few stars.
II. It does not resemble shape of human beings or animals.	II. It is arranged in patterns resembling human beings or some animals.
III. There are billions of galaxies in the Universe.	III. There are only about 88 constellations.

4. Answer:

There are total eight planets in our solar system which are as follows:

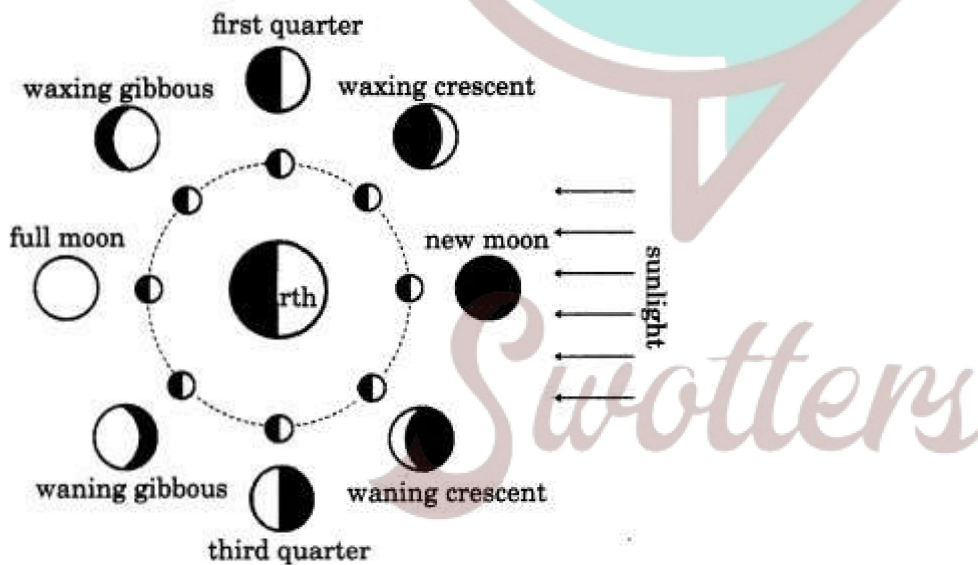
- Mercury: Mercury is the planet which is nearest to the sun. It is the smallest planet of the solar system. It has no satellite of its own.
- Venus: Venus is the second planet in our solar system. It is the brightest planet in the

night sky.

- It has no moon or satellite of its own.
- Earth: It is the third planet of the solar system and is the only planet on which life exists. It has only one moon.
- Mars: The fourth planet of our solar system is Mars. It is also called the red planet. Mars has two satellites.
- Jupiter: It has large number of satellites and it is the largest planet of our solar system.
- Saturn: Saturn appears yellowish in colour. It contains beautiful rings which are not visible with naked eyes.
- Uranus: It is the seventh planet of our solar system. It is the second outermost planet of solar system.
- Neptune: It is the last planet of our solar system.

5. Answer:

The moon does not have its own light. We see the moon because the sunlight falling on it gets reflected toward us. thus, we see only that part of the moon which reflects light keeps on changing daily. This happens because the moon revolves around the earth along with this moon also revolves around the sun. Therefore, we see phases of the moon.



► Fig. 17.8 Phases of Moon