

Grade VI

Lesson 1. The Earth in the Solar System.

Objective Type Questions

I. Multiple Choice Questions

1. The planet known as the "Earth's Twin" is
(a) Jupiter (b) Saturn (c) Venus (d) None of these
2. Which is the third nearest planet to the sun?
(a) Venus (b) Earth (c) Mercury (d) None of these
3. Asteroids are found between the orbits of:
(a) Saturn and Jupiter (b) Mars and Jupiter (c) The Earth and Mars (d) None of these
4. The sun is about _____ km away from earth.
(a) 150 million (b) 148million (c) 156 million (d) 160 million
5. Which planet is nearest to sun _____
(a) Earth (b) Saturn (c) mercury (d) mars
6. The North Star is called _____
(a) Constellations (b) pole star (c) orbits (d) planet
7. New moon night is called _____
(a) Poornima (b) amavasya (c) full moon night (d) none of these
8. Twinkling stars in night are similar to _____
(a) Moon (b) sun (c) both of these (d) none of these
9. What does Saturn have around in?
(a) Rings (b) Debris (c) Both of these (d) None of these

1. c	2.b	3.b	4.a	5.c	6. b	7. b	8. b	9. a
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II. Multiple Choice Questions

- (i) Full moon night occurs once every
(a) Day (b) 15 days (c) 20 days (d) month
- (ii) The Hindi word for the New Moon night is
(a) Amavasaya (b) Krishna paksha (c) Poornima (d) none of these

- (iii) The sun is
 (a) a star (b) a celestial body
 (c) the head of the solar system (d) asteroid
- (iv) Ursa Major is a/an
 (a) Star (b) constellation (c) galaxy (d) asteroid
- (v) Which of these was a planet till 2006 but is now a "dwarf planet"?
 (a) Neptune (b) The sun (c) Pluto (d) Solaris
- (vi) The term "Blue Planet" indicates the presence of
 (a) Land (b) water (c) oxygen (d) all of these

i. d	ii. a	iii. d	iv. b	v. c	vi. b
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III. Multiple Choice Questions

- How is the sky filled with after sunset and in the night?
 (a) Bright objects (b) Dim objects
 (c) Both (a) and (b) (d) None of these
- What is the name given to the full moon night?
 (a) Amavasya (b) Poornima
 (c) Both (a) and (b) (d) None of these
- Which of the following name is given to the new moon?
 (a) Poornima (b) Amavasya
 (c) Both (a) and (b) (d) None of these
- What are celestial bodies?
 (a) The sun (b) The moon
 (c) All the shining bodies in the sky (d) All of these
- The celestial bodies which have their own heat and light are called
 (a) Planets (b) stars
 (c) satellites (d) all of these
- Which is the most recognizable constellation?
 (a) The saptarishi (b) The moon
 (c) The sun (d) The mars

7. The Star which indicates the north is called
- (a) Pole star (b) pole
(c) north pole (d) south pole
8. The celestial bodies which do not have their own heat and light but are lit by the light of the stars are named as
- (a) Stars (b) planets
(c) both (a) and (b) (d) none of these
9. The word 'planet' has been derived from the word 'planetai' which is named as
- (a) Latin word (b) German word
(c) Greek word (d) English word
10. Which celestial bodies form the solar system?
- (a) The sun (b) The planets
(c) The satellites, asteroids and meteoroids (d) All of the above
11. All the planets move around the sun in fixed elliptical path, these paths are called.
- (a) Axis (b) orbit
(c) both (a) and (b) (d) none of these
12. Why is the shape of the earth geoid?
- (a) It is slightly flattened at the poles (b) It is spheroid at the poles
(c) Both (a) and (b) (d) None of these
13. The earth is called a unique planet due to
- (a) Neither too hot nor too cold (b) presence of air and water
(c) oxygen, light supporting gas (d) all of these
14. The earth is called a blue planet because of the presence of
- (a) Water (b) blue colour
(c) brown colour (d) red colour
15. Why do we see only one side of the moon from the earth?
- (a) Because (b) 27 days also taken in one spin
(c) both (a) and (b) (d) None of these
16. Why does the moon not have conditions favorable for life?
- (a) Because of nonexistent of water (b) because of nonexistent of air
(c) both (a) and (b) (d) none of these

17. Apart from stars, planets and satellites there are numerous bodies which also move around the sun, what are these called?
- (a) Stars (b) Asteroids
(c) Meteoroids (d) Planets
18. Asteroids are found between the orbits of Jupiter and
- (a) Mars (b) Earth
(c) Venus (d) Neptune
19. Meteoroids are made up of
- (a) Dust (b) pieces of rocks
(c) gases (d) none of these
20. What is called a cluster of millions of stars, shining white in the starry sky?
- (a) Stars (b) planets
(c) Milky Way galaxy (d) Satellites
21. What makes the universe?
- (a) Millions of galaxies (b) Millions of stars
(c) Earth (d) Satellites

1. c	2. b	3. b	4. d	5. b	6. a	7. a
8. b	9. c	10. d	11. b	12. a	13. d	14. a
15. c	16. c	17. c	18. a	19. b	20. c	21. a

I. Fill in the Blanks

- A group of _____ forming various patterns is called a _____
- A huge system of stars is called _____
- _____ is the closest celestial body to our earth.
- _____ is the third nearest planet to the Sun.
- Planets do not have their own _____ and _____
- We can only see _____ once in a month.
- Full moon night is also called as _____
- We see different patterns formed by different group of stars they are called _____
- The moon moves around the earth in about _____

10. _____ is a celestial body that moves around the planets in the same as planets around the sun.

1.Stars constellation	2.Galaxy	3.Moon	4.Earth	5.Heat, light
6.Full moon	7.Poornima	8.Constellations	9.27days	10.Satellite

II. Fill in the Blanks

- (i) The Amavasya night occurs about _____ days after the poornima night
- (ii) Stars are celestial bodies that are _____ and _____
- (iii) The planets do not possess their own _____ and _____
- (iv) The small Bear constellation is better known as the _____
- (v) The Greek word which is the origin of the word "planet" means _____
- (vi) Three planets having rings around them are _____, _____ and _____.
- (vii) _____ are elongated fixed paths in which a celestial body always remains.
- (viii) Venus is similar to the earth in the _____ and _____.
- (ix) The shadows on the moon's surface are due to _____, _____ and _____
- (x) Meteoroids heat up and burn due to _____

I. Match the Following

1. Pole star	(a) Human made satellite
2. Lit by light of stars	(b) Eight
3. Moon	(c) Satellite
4. Planets	(d) Planets
5. INS	(e) North Star

1. e	2. d	3. c	4. b	5. a
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II. Match the Following

Column A	Column B
(i) The sun	(a) Outer Planets
(ii) The moon	(b) Asteroid Belt
(iii) The earth	(c) Neptune
(iv) The planet with the longest year	(d) Venus
(v) Mars and Jupiter	(e) 75% water
(vi) Planet having most moons known	(f) Saturn
(vii) Saturn and Uranus	(g) 150 million km away from the earth
(viii) The planet with the longest day	(h) 3.84 million km away from the earth

(i) g	(ii) h	(iii) e	(iv) c	(v) b	(vi) f	(vii) a	(viii) d
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I. True or False

- The celestial bodies are called stars.
- Venus is called earth's twin.
- The numerous tiny bodies which move around the sun are called meteoroids.
- The moon is about 3, 84, 400 km away from earth.
- The mercury takes 56 days to revolve around the sun.
- The earth is often called as blue planet.

1. True	2. True	3. False	4. True	5. False	6. True
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II. True or False

- The sun appears bigger and brighter than the other stars because it is indeed so.
- Saptarishi and Ursa Major are the two different constellations.
- The Pole Star is known to have a fixed position in the sky.

- (iv) The earth is the only planet that has a natural satellite.
- (v) Pluto was declared a "dwarf planet" in August,2006.
- (vi) The earth is the third largest planet in the solar system.
- (vii) The geoid shape is not perfectly spherical.
- (viii) The moon takes about the same time in rotating about its axis once as it does to complete a revolution around the earth.

i. False	ii. False	iii. True	iv. False
v. True	vi. False	vii. True	viii. True

Very Short Answer Type Questions

1. How does a planet differ from a star?

Planets____They have no light or heat of their own. They are lit by the light of stars

Star ____They are hot. They are made up of gases. They have their own heat which they emit in large amounts.

2. Why is Earth called a unique planet?

The Earth is called a unique planet due to the following reasons:

(i) The Earth is neither too hot nor too cold. The Earth is a unique planet in the sense that it provides all things which are necessary for the growth and development of life.

(ii) It contains water and air, which is essential for our survival.

(iii) Air has life-supporting gases like oxygen.

3. Why do we see only one side of the moon always?

We see only one side of the moon as it revolves around the Earth in about 27 days and 8 hours and takes the same time to complete one spin.

4. What is the Universe?

The Universe is the whole body of stars, planets, dust and gases. It is an infinite space consisting of millions of galaxies.

5. Define celestial bodies.

The heavenly bodies which shine in the sky are called celestial bodies

6. On what basis are stars classified?

The stars can be classified according to their physical characteristics like;

(i) size (ii) temperature (iii) colour and (iv) brightness.

7. What are planets?

Some celestial bodies don't have their own light and heat. They are lit by the light of the stars. Such bodies are called planets. These are eight planets in our solar system- Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. They revolve around the Sun.

8. What are orbits?

All planets in solar system move around the sun in fixed path. These paths are elongated and they are called orbits.

9. Why is earth called blue planet?

From the outer space, the earth appears blue because its $\frac{2}{3}$ rd surface is covered by water. It is therefore, called a blue planet.

Short Answer Type Questions

1. What are stars?

- (i) Stars are the heavenly bodies which are extremely hot and have light of their own heat and light of their own.
- (ii) They continuously radiate heat and light energy in the space.
- (iii) A star is made up of hydrogen and helium gases and the dust. The heat and light energy is generated by burning of these gases.

2. What are the various types of stars?

- (i) It is surprising that sun is not the biggest star in the universe. It is only a medium-sized star. It looks big because of its nearness to the earth (150 millions kilometers)
- (ii) Other bigger stars are far away from our earth due to which they look smaller than the sun.
- (iii) Stars account for about 98 percent of the matter in a galaxy dust.

3. What is a solar system? Name the eight planets.

- (i) The sun, the eight planets, satellites and some other celestial bodies known as asteroids and meteoroids form the solar system.
- (ii) We often call it as solar family with the sun as its head.
- (iii) Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.

4. Describe the sun.

- (i) The sun is the centre of solar system.
- (ii) The surface temperature of the sun is about 6000°C Celsius.
- (iii) It is huge and made of extremely hot gases.
- (iv) It provides the pulling force that binds the solar system.
- (v) The sun is the ultimate source of heat and light for the solar system.
- (vi) The sun is about 150 million kilometers away from the earth.

5. Define Geoid and give reason for life on earth.

- (i) The earth is the third nearest planet to the sun.
- (ii) In size, it is the fifth largest planet.
- (iii) It is slightly flattened at the poles. That is why its shape is described as a Geoid. Geoid means earth-like shape. The conditions favorable to support life on earth are:
 - (i) The earth is neither too hot too cold.
 - (ii) It has water and air which is very essential for our survival.
 - (iii) The air has life-supporting gases like oxygen.

6. What is galaxy?

- (i) A galaxy is a massive congregation of stars, planets, asteroids and other heavenly bodies bounded by the force of gravitation.
- (ii) The word 'Galaxy' has been taken from the Greek word 'Galaxias' which means milky, a reference to the Milky way Galaxy.
- (iii) One of the bright bands on the clear night sky is known as 'Milky Way' Galaxy' or 'Akash Ganga'.
- (iv) It is home to the solar system and to one of the unique planets, earth.

7. Describe the solar system.

- (i) The solar system means 'family of the sun'.
- (ii) The solar system consists of the sun and eight planets held by gravity

- (iii) The sun is a star which is the centre of the solar system and all other heavenly bodies, either major, revolve around it.
- (iv) There are eight planets in the solar system- Mercury, Venus, earth, Mars, Jupiter, Saturn, Uranus and Neptune.

Long Answer Type Questions

1. What are constellations? What are its types?

- (i) There are millions of stars in the sky, which are distributed randomly.
- (ii) But few of the stars are found in cluster or in groups.
- (iii) Such grouping of the stars is known as constellation.
- (iv) These can be seen only during the night. As they have a definite shape, hence they acquire different names.
- (v) There are around 88 known constellations. Some of them are as follows:
 - (a) Ursa Major (or Great Bear)
 - (b) Ursa Minor (or Little Bear)
 - (c) Orion (or Hunter)
 - (d) Pegasus
 - (e) Scorpius
 - (f) Cassiopeia

One of the well-known constellations in the sky is Saptarishi Mandal or Great Bear. It is also known as Ursa Major.

2. How are the planets divided?

The planets have been divided as follows:

- (i) Inner Planets and (ii) Outer Planets.
- (i) Inner Planets: There are four planets namely Mercury, Venus, Earth and Mars. They are dense and have rocky composition. Mercury and Venus do not have any satellite or moons whereas Earth has one and Mars has two moons.
- (ii) Outer planets: The outer planets are Jupiter, Saturn, Uranus and Neptune. These are very big and giant in size as compared to the inner planets. They are lighter and less dense as they are made up of gases and liquids.

3. Write a short note on the moon.

- (i) The moon is the natural satellite of the earth.
- (ii) It revolves around the earth and completes one revolution in 27 days and 8 hours
- (iii) At the same time, it takes equal time for completing one rotation on its axis
- (iv) It is smaller in size thereby exerts very little gravitational force, i.e., only one-sixth of the earth
- (v) Moon has a volume that is only 2 percent of earth's volume and a tiny fraction of the size of the sun.
- (vi) Like our Earth, the moon has no light of its own. It reflects light of the Sun.

4. Write a short note on asteroids.

- (i) Asteroids are planet-like bodies revolving round the sun between the orbits of Mars and Jupiter.
- (ii) These are made up of rocks and metal pieces.
- (iii) They are also called planetoids or Inferior Planets or Minor Planets.
- (iv) There are millions of asteroids scattered in the orbits of Mars and Jupiter
- (v) The largest asteroids are known as "Ceres".

5. Write a short note on meteoroids. Give an example.

- (i) The small pieces of rocks which move around the sun are called meteoroids.
- (ii) Sometimes they come near the earth.
- (iii) During this process due to friction with the air they get heated up and burn.
- (iv) It creates a flash of light.
- (v) It also known as 'Shooting star'.

6. How is earth a unique planet?

- (i) Our Earth is a unique planet in the whole of the solar system in the sense that it provides all things which are necessary for the growth and development of like like water, oxygen and soil, etc.
- (ii) It also called blue planet because 71 percent of its surface is covered with the water.
- (iii) Condition favorable to support life are probably around only on the earth. The earth is neither too hot nor too cold.
- (iv) The Earth has seasons, day and night, elements of weather and climate like pressure, temperature, winds, etc. Which provides uniqueness to it.

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