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| **INDIAN SCHOOL AL WADI AL KABIR** | | |
| **Class: VI** | **DEPARTMENT: SCIENCE 2024-25** | **DATE: 16-02-2025** |
| **WORKSHEET NO: 11 WITH ANSWERS** | **TOPIC: BEYOND EARTH** | **NOTE: A4 FILE FORMAT** |
| **NAME OF THE STUDENT:** | **CLASS & SEC:** | **ROLL NO.** |

## I. OBJECTIVE-TYPE QUESTIONS

1. Pole star is a part of which constellation?

**a) Ursa Minor**

b) Ursa Major

c) Canis Major

d) Taurus

2. Name the brightest star in the Canis Major Constellation.


a) Aldebaran

**b) Sirius**

c) Betelguese

d) None of these

3. Which of the following astronomical bodies have a tail?

a) Asteroids

**b) Comets**

c) Satellite

d) Moon

4. Which of the following is not a constellation?

a) Orion.

b) Taurus.

c) Saptarishi.

**d) Sirius.**

5. Which of the following planets is not mostly made out of gas?

a) Jupiter.

b) Saturn.

**c) Mars.**

d) Uranus.

6. Asteroid belt is found between which two planets in the solar system?

a) Mercury and Venus.

b) Saturn and Neptune.

c) Venus and Earth.

**d) Mars and Jupiter.**

7. Which one of the following is arranged in order from biggest to smallest?

(a) Galaxy, Universe, Solar System, Star, Planet.

(b) Universe, Solar System, Galaxy, Planet, Star.

(c) Solar System, Universe, Galaxy, Star, Planet.

**(d) Universe, Galaxy, Solar System, Star, Planet.**

*For the following questions, two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (i), (ii), (iii), and (iv) as given below.*

*i) Both A and R are true and R is the correct explanation of the assertion.*

*ii) Both A and R are true but R is not the correct explanation of the assertion.*

*iii) A is true but R is false.*

*iv) A is false but R is true*

8. Assertion (A): The pole star seems to be still in the north sky in the northern hemisphere.

Reason (R): The Pole star is located directly above the North Pole.

**i) Both A and R are true and R is the correct explanation of the assertion.**

9. Assertion (A): Earth is called a red planet

Reason (R): Most of the earth is covered with water and appears blue from space.

**iv) A is false but R is true.**

10. Assertion (A): Constellations are patterns of the stars in a certain region of the sky.

Reason (R): Constellations are made by real physical lines present in space.

**iii) A is true but R is false.**

11. Assertion (A): Venus is the hottest planet in solar system
Reason (R): Mercury is closest to the sun.
**ii) Both A and R are true but R is not the correct explanation of the assertion.**

## II. SHORT ANSWER TYPE QUESTIONS (2M):

1. What is a pole star?
**[Hint: A Pole star is a bright star located almost directly above the Earth's North Pole.]**

2. What is the Milky Way?
**[Hint: The Milky Way is the galaxy that contains our Solar System. It is a vast collection of stars planets gas and dust held together by Gravity.]**

3. Which planet is called the Red planet and why?
**[Hint: Mars is known as Red Planet because the soil on Mars appears to be red due to the presence of iron oxide or rust particles in it.]**

4. What are the other names of the Pole Star?
**[Hint: Polaris/Dhruv Tara/ North Star/ Guiding Star are the other names of Pole Star.]**

5. Which constellation is Aldebaran part of?
**[Hint: Aldebaran is part of the Taurus constellation.]**

6. Define Universe. **[Hint: The Universe is a large space consisting of celestial bodies like the stars, planets, galaxies, dust, and gases.]**

## III. SHORT ANSWER TYPE QUESTIONS: (3M)

1. What is an astronomical unit?

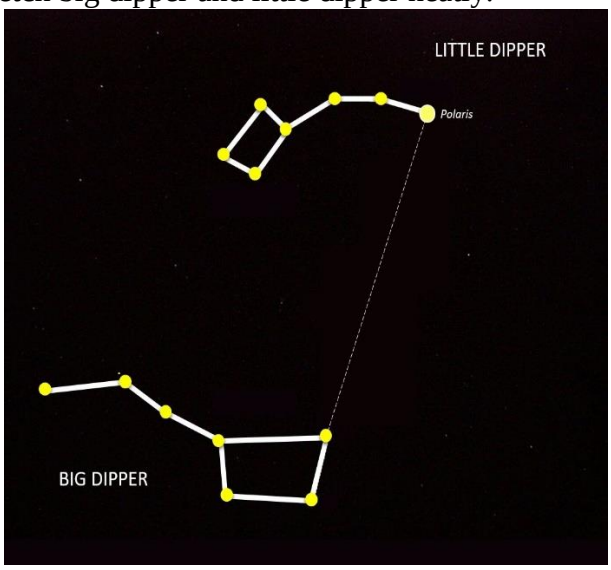
**[Hint: The average distance between Earth and the sun is known as an astronomical unit. The average distance between Earth and the sun is approximately 150 million kilometers. This unit is used to measure distances within our solar system.]**

2. Define Light Pollution.
**[Hint: The presence of excessive artificial light at night time is referred to as light pollution.]**

3. Why is the Earth called a unique planet? **[Hint: The earth is a unique solar system planet because:**

**(a) Conditions favourable for supporting life are only found on Earth.**
**(b) The Earth is neither too hot nor too cold.**
**(c) There is air and water in it, which are very important for our survival.]**

4. Sketch big dipper and little dipper neatly.




5. How does the Sun contribute to sustaining life on Earth? **[Hint: The Sun contributes to sustaining life on Earth by providing essential heat and light. This energy helps maintain a suitable temperature for life, supports plant growth, produces food and oxygen, and drives the climate, seasons, weather, water cycle, and winds.]**

## IV. LONG ANSWER TYPE QUESTIONS. (5M)

1. Explain the characteristics of asteroids, including their size range, location in the Solar System, and differences from other celestial objects.

**[Hint: Characteristics: Asteroids are small, rocky objects that vary in size from about 10 m to 500 km in diameter. Unlike planets, asteroids are irregularly shaped and do not have atmospheres.**
**Location: Most asteroids are found in the asteroid belt, which lies between the orbits of Mars and Jupiter. This region contains a large number of these small objects, orbiting the Sun.**
**Comparison: Asteroids are much smaller than planets and lack the spherical shape of planets. They are distinct from comets, which are composed of ice, dust, and gases, and have a characteristic tail when near the Sun.]**

2. Discuss the formation of a comet's tail and the behaviour of comets as they approach and move away from the Sun.

**[Hint: Formation of the tail: When a comet approaches the Sun, the heat causes the frozen materials in the comet (including ice, dust, and gases) to evaporate. This process forms a glowing tail that extends away from the Sun due to the solar wind and radiation pressure.**

**Behaviour: As comets get closer to the Sun, they become more visible due to the formation of the tail. However, when comets move away from the Sun, they cool down, and the tail starts to dissipate. This makes them appear dim and sometimes invisible to the naked eye. Some comets have elliptical orbits that bring them close to the Sun periodically, while others may escape the Solar System or break apart due to gravitational forces or collisions.]**

## V. SOURCE-BASED/ CASE STUDY-BASED QUESTIONS

Read the given passage and answer the following questions.

1. The Sun is a star. It is the only star in our solar system. It is an extremely hot spherical ball of gases. The Sun gives out a huge amount of energy and glows brightly. The Earth and other planets revolve around the Sun. The eight planets, in order of their increasing distance from the Sun are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune. The four inner planets are Mercury, Venus, Earth and Mars. They are rocky in nature. The four outer planets are Jupiter, Saturn, Uranus and Neptune. They are gaseous in nature.

a) What is the sun? **[Hint: The Sun is the only star of our solar system. It is an extremely hot spherical ball of gases and gives out a large amount of heat and light.]**
b) Name all the planets of the solar system in increasing order of distance from the sun. **[Hint: The names of the planets of the solar system are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune.]**
c) Write a difference between inner planets and outer planets. How are they separated?

**[Hint: One of the most prominent differences between inner and outer planets is that the inner planets (Mercury, Venus, Earth, and Mars) are rocky. On the other hand, the outer planets (Jupiter, Saturn, Uranus, and Neptune) are gaseous. They are separated by an asteroid belt.**

2. A planet is a spherical body that revolves around the Sun. The Earth takes nearly One year to complete one revolution. The inner four planets nearest to the Sun—Mercury, Venus, Earth, and Mars—are smaller in size. Mercury is the nearest planet to the Sun. They have solid surfaces with rocks on them. Venus is commonly called the Morning Star or the Evening Star, even though it is not a star. Mars is called a red planet and Earth a blue planet, because a large portion of the Earth's surface is covered with water and thus, it appears blue from space. The presence of an atmosphere on a planet can trap heat which can significantly change the temperature of a planet. That is why Venus, for example, is hotter than Mercury, although it is farther from the Sun. The outer planets- Jupiter, Saturn, Uranus, and Neptune—are much larger compared to the Earth and are mostly made of gases. These giant gaseous planets have large flat ring-like structures around them which are made
of dust particles and rocky material.

a) Why is the Earth called a blue planet? **[Hint: The outer space, the earth appears blue because its three-fourths surface is covered by water. It is, therefore, called a blue planet.]**
b) How many planets in the solar system are made of gas? Name them. **[Hint: Jupiter, Saturn, Uranus, and Neptune are made out of gas and they are also referred to as gas giants.]**

c) Which planet is the hottest in our solar system? Why? **[Hint: Venus is the hottest planet in our Solar System. The presence of an atmosphere on a planet can trap heat which can significantly change the temperature of a planet. That is why Venus is hotter than Mercury, although it is farther from the Sun]**

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