1. Which planet has the most extensive ring system?

a) Jupiter b) Saturn c) Uranus d) Neptune

Answer: b) Saturn

Explanation: Saturn is known for its extensive and bright ring system, which is made up of ice and rock particles.

2. Which planet is often referred to as Earth's "sister planet" due to its similar size and composition?

a) Mars b) Venus c) Neptune d) Uranus

Answer: b) Venus

Explanation: Venus is often called Earth's "sister planet" because it is similar in size, composition, and proximity to the Sun.

3. What is the main difference between comets and asteroids?

a) Comets are made of metal, asteroids are made of ice b) Comets have tails, asteroids do not

c) Asteroids are larger than comets d) Comets orbit the Sun, asteroids do not

Answer: b) Comets have tails, asteroids do not

Explanation: Comets are composed of ice, dust, and rocky material and often have tails when they come close to the Sun, while asteroids are mostly rocky and do not have tails.

4. Which planet has the most moons?

a) Earth b) Mars c) Jupiter d) Saturn

Answer: c) Jupiter

Explanation: Jupiter has the most known moons in the solar system, with 92 confirmed moons as of 2024.

5. Which of the following planets is known to have a prominent system of rings?

a) Mars b) Venus c) Neptune d) Saturn

Answer: d) Saturn

Explanation: Saturn is famous for its prominent ring system, which is the most extensive and noticeable in the solar system.

6. What is the primary reason for the phases of the Moon?

a) The Earth's shadow falling on the Moon b) The Moon's rotation

c) The changing distance between the Earth and the Moon d) The relative positions of the Earth, Moon, and Sun

Answer: d) The relative positions of the Earth, Moon, and Sun

Explanation: The phases of the Moon are caused by the relative positions of the Earth, Moon, and Sun, which determine how much of the Moon's surface is illuminated from our perspective.

7. What is the main reason we experience different seasons on Earth?

a) The Earth's distance from the Sun b) The Earth's elliptical orbit

c) The tilt of the Earth's axis d) The Sun's varying brightness

Answer: c) The tilt of the Earth's axis

Explanation: The tilt of the Earth's axis (about 23.5 degrees) relative to its orbital plane around the Sun is the main reason we experience different seasons.

8. Which of these planets has no natural satellites?

a) Mars b) Venus c) Jupiter d) Saturn

Answer: b) Venus

Explanation: Venus has no natural satellites (moons), just like Mercury.

9. Which planet is often called the "morning star" or "evening star" due to its bright appearance in the sky?

a) Mars b) Mercury c) Venus d) Saturn

Answer: c) Venus

Explanation: Venus is often called the "morning star" or "evening star" because it is very bright and visible shortly before sunrise or after sunset.

10. Which planet is known as the "Gas Giant" along with Jupiter, Saturn, and Uranus?

a) Mars b) Neptune c) Venus d) Mercury

Answer: b) Neptune

Explanation: Neptune, along with Jupiter, Saturn, and Uranus, is known as a "Gas Giant" because it is primarily composed of hydrogen and helium.

11. What is the term for a rocky body that burns up upon entering the Earth's atmosphere, often seen as a shooting star?

a) Meteor b) Asteroid c) Comet d) Meteoroid

Answer: a) Meteor

Explanation: A meteor is a rocky body that burns up upon entering the Earth's atmosphere, creating a bright streak of light in the sky.

12. Which planet is known as the "Blue Planet" due to its blue oceans and atmosphere?

a) Mars b) Venus c) Earth d) Neptune

Answer: Earth

Explanation: Earth is known as the "Blue Planet" because its surface is covered with vast oceans that appear blue from space, along with its atmosphere.

13. What is the primary cause of tides on Earth?

a) The Earth's rotation b) The gravitational pull of the Moon and the Sun

c) The Earth's tilt d) The Earth's orbit around the Sun

Answer: b) The gravitational pull of the Moon and the Sun

Explanation: Tides on Earth are primarily caused by the gravitational pull of the Moon and, to a lesser extent, the Sun, on the Earth's oceans.

14. **Reasoning Question:**

Statement: Saturn has rings around it, while Mars does not.

Reasoning: This is because Saturn is a gas giant with a large system of rings made of ice and dust particles.

Options:

a) Both the statement and reasoning are correct, and the reasoning correctly explains the statement.

b) Both the statement and reasoning are correct, but the reasoning does not correctly explain the statement.

c) The statement is correct, but the reasoning is incorrect.

d) Both the statement and reasoning are incorrect.

Answer: a) Both the statement and reasoning are correct, and the reasoning correctly explains the statement.

Explanation: Saturn's rings are a distinctive feature due to its composition and gravitational interactions with its moons, whereas Mars, being a smaller terrestrial planet, does not have rings.

15. What is the name of the galaxy that contains our Solar System?

a) Andromeda b) Milky Way c) Triangulum d) Pinwheel

Answer: b) Milky Way

Explanation: The Milky Way is the spiral galaxy that contains our Solar System. It is home to billions of stars, including the Sun.

16. What is the name of the force that keeps planets in orbit around the Sun?

a) Magnetic force b) Gravitational force c) Electromagnetic force d) Nuclear force

Answer: b) Gravitational force

Explanation: Gravitational force is the force of attraction between masses that keeps planets in orbit around the Sun and moons in orbit around planets.

17. The polar star indicates to which direction?

(a) North (b) East (c) South d) West

Answer: (a) North

Explanation: The pole star, with respect to earth, is located in the northern direction. It is the brightest star visible from earth.

18. Stars appear to move from

(a) West to east (b) East to west (c) North to south (d) South to west

Answer: (b) East to west

Explanation: As the Earth rotates from West to East with an axis that is pointed in the direction of the North Star, stars appear to move from East to West in the sky.

19. Meteoroids are made up of

(a) dust (b) pieces of rocks (c) gases (d) small pieces of glasses

Answer: pieces of rocks

Explanation: Most meteoroids are pieces of other, larger bodies that have been broken or blasted off. Some come from comets, others from asteroids, and some even come from the Moon and other planets. Some meteoroids are rocky, while others are metallic, or combinations of rock and metal.

20. What makes the universe?

(a) Millions of galaxies(b) Millions of stars (c) Earth (d) Satellites

Answer: Millions of galaxies

Explanation: All the heavenly bodies such as the sun, the moon, and the stars which are seen with the naked eye, and many more celestial bodies such as planets, asteroids, satellites, comets, meteors, and meteorites, which are not seen by the naked eyes. All these heavenly bodies form the Universe.

B. Fill in the blanks with appropriate words to complete each sentence:

1. The Amavasya night occurs about _____ days after the Poornima night.
2. Stars are celestial bodies that are _____ and _____.
3. The planets do not possess their own _____ and _____.
4. The Small Bear constellation is better known as the _____.

5. The Greek word which is the origin of the word “planets” means _____.
6. Three planets having rings around them are _____, _____, and _____.
7. _____are elongated fixed paths in which a celestial body always remains.
8. Venus is similar to the Earth in its _____ and _____.
9. The shadows on the moon’s surface are due to _____, _____, and _____.
10. Meteoroids heat up and burn due to _____.

Answers:

1. fifteen
2. big, hot
3. heat, light
4. Saptarishi
5. wanderers,
6. Jupiter, Saturn, Uranus
7. Orbits
8. size, shape
9. mountains, plains, depressions
10. friction.

Section B

Very Short Answer Questions:

Q1. What does the solar family consist of?
Answer: The solar family consists of the sun, planets, their satellites, and asteroids and meteoroids.

Q2. What is the shape of the orbits in which planets revolve around the sun?
Answer: The orbits of planets are elliptical (Le. elongated) in shape.

Q3. What is “Geoid”?
Answer: A sphere with its ends flattened at poles (just like earth) is called the geoid.

Q4. How much time does the moon take to revolve once around the Earth?
Answer: The moon takes approximately 27 days to revolve once around the Earth.

Q5. What are asteroids?
Answer: Asteroids are the numerous tiny celestial bodies that revolve around the sun and are mainly found between the orbits of Mars and Jupiter.

Q6. What is a meteoroid?

Answer: Small pieces of rocks that move around the sun are called meteoroids.

Q7. Give one characteristic of a planet.

Answer: One characteristic of a planet is that it must be big enough to have a sufficient amount of gravity. This appropriate amount of gravity would give the planet a spherical shape.

Q8. Name the planets which are gaseous bodies.

Answer: Jupiter and Saturn have gaseous bodies.

Q9. Is the solar system expanding?

Answer: Solar systems do not expand despite existing in an expanding universe because of the binding force of gravity.

Section C

Short Answer Questions:

Q10. Meteors are not visible during the day. Explain the Reason.

Answer: They are not visible during the daytime because their brightness is extremely small as compared to that of the sun. Meteors are very small objects which glow due to the friction when they enter the Earth's atmosphere.

Q11. Name the largest and the smallest planets. Which planets are bigger and which are smaller than the Earth?

Answer:

1. The largest and the smallest Planets. Jupiter is the largest and Mercury is the smallest of all the planets.
2. Planets are bigger than the Earth. (i) Neptune (ii) Uranus (iii) Saturn and (!u) Jupiter are bigger planets than the Earth.
3. Planets are Smaller than the Earth. (i) Venus, (ii) Mars, and (iii) Mercury are smaller planets than the Earth.

Q12. How would the Earth be affected if it is taken: (a) too near or (b) too far from the Sun?

Answer:
(a) If the Earth is taken too nearer the Sim, its temperature will grow higher since it will get a greater amount of heat. It will become unfit for habitation as it would change into a hot desert.

(b) If the Earth is taken too far from the Sun its temperature will grow lower since it will get a lesser amount of heat. It would become an ice-bound desert unfit for human habitation,

Q13. Define (a) Universe (b) Celestial bodies (c) Galaxy (d) Nebula

Answer:

(a) Universe: The universe is a collection of all planets, stars, galaxies, celestial bodies, gases, dust clouds, light, etc. It is considered as an endless space. We all belong to this universe.
(b) Celestial bodies: A celestial body is any object that astronomers observe in outer space. They are also sometimes referred to as "celestial objects", "astronomical objects", or "heavenly bodies." This can include planets, stars, moons, asteroids, comets, or even nebulae and galaxies.
(c) Galaxy: A galaxy is a huge collection of gas, dust, and billions of stars and their solar systems, all held together by gravity.
(d) Nebula: A **nebula** is a giant cloud of dust and gas in space. Some nebulae (more than one nebula) come from the gas and dust thrown out by the explosion of a dying star, such as a supernova. Other nebulae are regions where new stars are beginning to form.

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Section D

Long Answer Questions:

Q14. Differentiate between the inner and outer planets.

Answer:

Inner Planets	Outer Planets
• Also known as Terrestrial planets or Rocky planets. • Mercury, Venus, Earth, Mars • Nearer to sun, move faster and have shorter period of revolution • Thin and rocky crust and mantle is rich in iron and magnesium • Have solid surfaces • No ring systems around them • Thin atmosphere • Very less number or no natural satellite	• Also known as Jovian planets or gaseous planets or gas gaints. • Jupiter, Saturn, Uranus and Neptune • Far away from the sun, move slowly and have longer period of revolution • These are gaseous bodies and mantle is also made of gases. • Do not have solid surfaces • Rings are present around these planets. • Large number of natural satellites

Q2. What are the differences and similarities between the sun, earth, and moon?

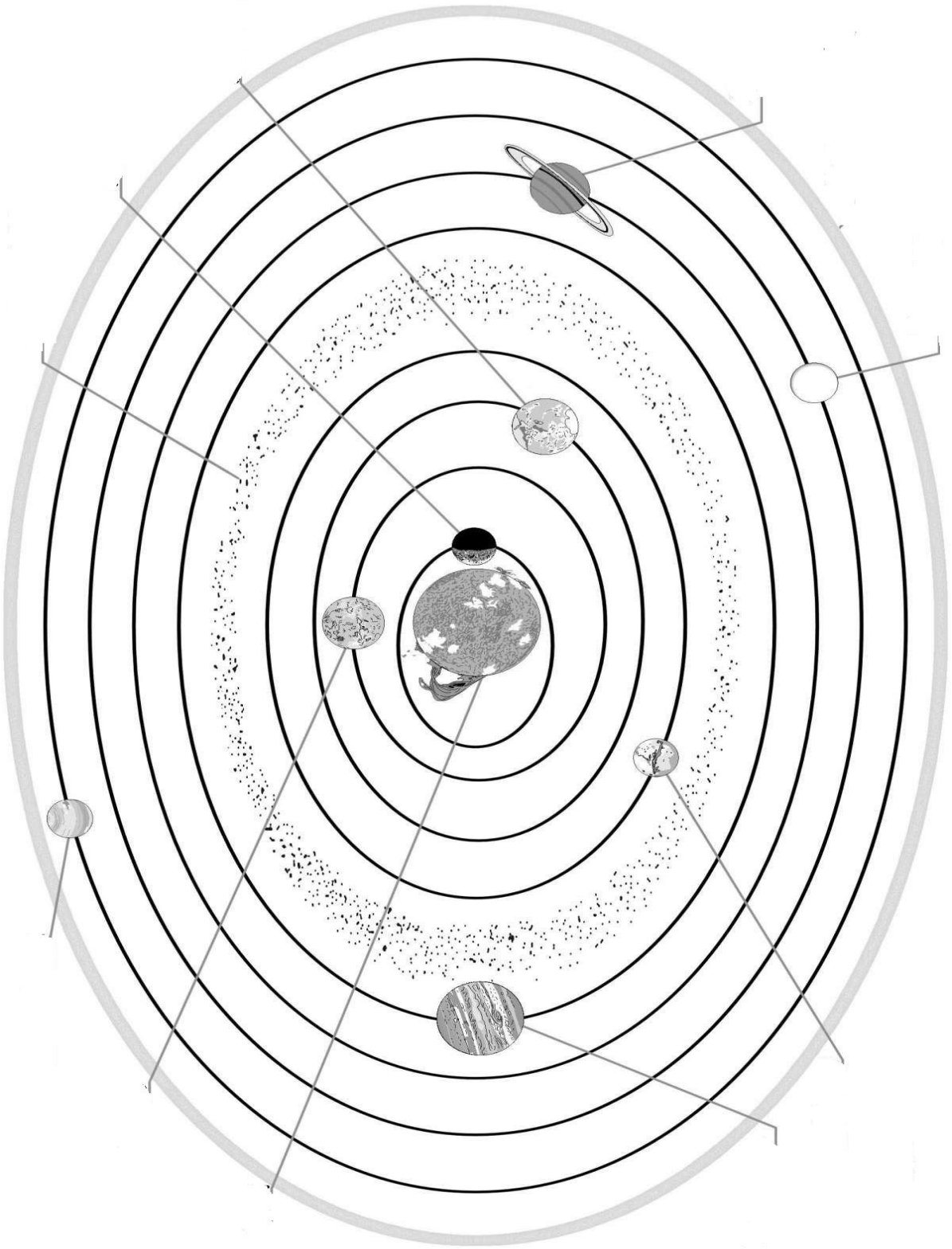
Answer:

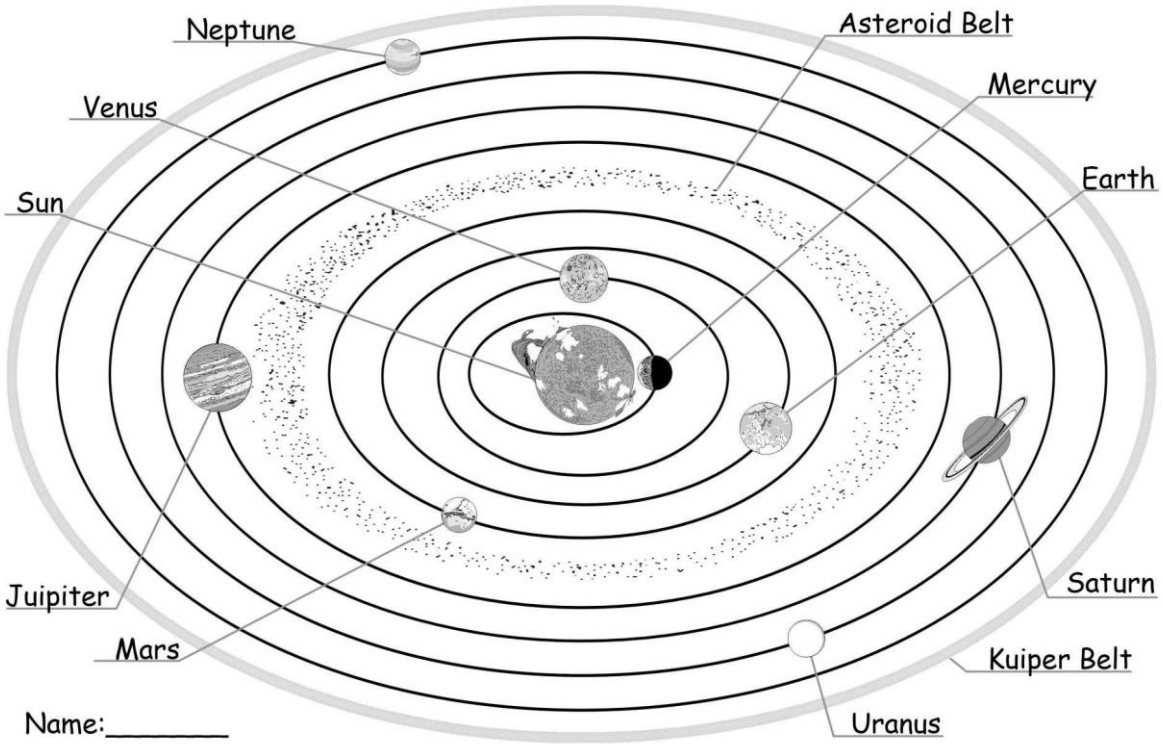
Definition: The Sun, the star along which Earth rotates, as well as the Moon, the satellite that thus revolves surrounding Earth, are inextricably linked.

Differences and similarities between the sun, earth, and moon

Differences	Similarities
1.The sun is formed of gas, however, the moon, as well as Earth, are not since they are largely composed of rock.	1.The sun, earth, and moon, they're all from the same galaxy.
2. The Earth revolves around the sun, whereas the moon revolves around the Earth.	2. Both the moon as well as the sun are incapable of supporting life.
3. The sun does not orbit anything because it is just at the center point of almost all of the planets, however, the moon, as well as Earth, does. The moon orbits the Earth, which in turn orbits the sun.	3. Lunar, as well as Solar eclipses, encompass the Earth, the Moon, and also the Sun.

Picture Study:




Neptune
Asteroid Belt
Mercury
Venus
Earth
Sun
Saturn
Juipiter
Mars
Kuiper Belt
Uranus

Name:_____