

Solar System Worksheet Answer Key PDF

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Part 1: Building a Foundation

What is the primary component of the Sun?

undefined. Oxygen

undefined. Hydrogen ✓

undefined. Carbon

undefined. Nitrogen

The primary component of the Sun is hydrogen.

Which of the following are classified as terrestrial planets? (Select all that apply)

undefined. Mercury ✓

undefined. Jupiter

undefined. Venus ✓

undefined. Saturn

The terrestrial planets include Mercury and Venus.

Describe the location of the asteroid belt within the solar system.

The asteroid belt is located between the orbits of Mars and Jupiter.

Which planet is known for its prominent ring system?

undefined. Mars

undefined. Jupiter

undefined. Saturn ✓

undefined. Neptune

Saturn is known for its prominent ring system.

Part 2: Application and Analysis

Which statement best describes the role of gravity in the solar system?

undefined. It only affects the planets.

undefined. It keeps the planets in orbit around the Sun. ✓

undefined. It has no effect on celestial bodies.

undefined. It only affects the Sun.

Gravity keeps the planets in orbit around the Sun.

If Earth's Moon were to suddenly disappear, which of the following effects might occur? (Select all that apply)

undefined. Changes in ocean tides ✓

undefined. Altered night-time illumination ✓

undefined. Increased solar radiation

undefined. Disruption of Earth's orbit

The disappearance of the Moon could lead to changes in ocean tides and altered night-time illumination.

Imagine a mission to explore the Kuiper Belt. What challenges might scientists face in reaching and studying this region?

Challenges may include the vast distance, extreme cold, and the need for advanced technology.

Analyze the differences between the inner and outer planets. Which of the following statements are true? (Select all that apply)

undefined. Inner planets are closer to the Sun and have rocky surfaces. ✓

undefined. Outer planets are larger and primarily composed of gases. ✓

undefined. Inner planets have more moons than outer planets.

undefined. Outer planets have ring systems. ✓

Inner planets are rocky and closer to the Sun, while outer planets are gas giants and larger.

Compare and contrast the characteristics of comets and asteroids. How do their compositions and orbits differ?

While comets are composed of ice and dust and have elongated orbits, asteroids are primarily rocky and have more circular orbits.

Part 3: Evaluation and Creation

Propose a new method for studying distant planets. Which of the following technologies might be most effective? (Select all that apply)

undefined. Space telescopes ✓

undefined. Ground-based observatories ✓

undefined. Robotic landers ✓

undefined. Human-crewed missions ✓

Technologies like space telescopes and robotic landers would be effective for studying distant planets.

Design a hypothetical mission to explore the Oort Cloud. What objectives would you set, and what technologies would you use to achieve them?

Objectives might include studying the composition of the Oort Cloud and understanding its role in the solar system, using advanced spacecraft technology.