



Solar System

Name: _____

Date: _____

Grade: Grade 5

Part A: Multiple Choice

Circle the best answer for each question.

1. Astronauts on the International Space Station experience weightlessness. What is the best explanation for this?

- A) The space station is so far from Earth that gravity no longer reaches it.
- B) The station and astronauts are in constant free fall around Earth, creating the sensation of weightlessness.
- C) The station's engines cancel out the force of gravity inside the cabin.
- D) There is no air in space, and without air there is no gravity.

2. Scientists want to build a base on the Moon before attempting a crewed mission to Mars. Which reason best supports this plan?

- A) The Moon has a thick atmosphere that protects against radiation just like Earth.
- B) The Moon is much closer than Mars, so it is a safer place to test life-support technology.
- C) The Moon has abundant liquid water that could supply a Mars-bound crew.
- D) Rockets cannot carry enough fuel to reach Mars without stopping on the Moon first.

3. Europa, a moon of Jupiter, has an icy surface with a possible ocean underneath. Why are scientists excited about this?

- A) An underground ocean could provide drinking water for astronauts visiting Jupiter.
- B) Liquid water beneath the ice could potentially support simple forms of life.
- C) The ice could be mined and shipped back to Earth to solve water shortages.
- D) Europa's ocean proves that all moons in the solar system contain water.

4. A trip to Mars takes about seven months. Which challenge would be the greatest concern for the crew?

- A) The spacecraft would run out of sunlight for its solar panels during the trip.
- B) Crew members would face long-term exposure to radiation and the effects of low gravity on their bodies.
- C) Radio signals between Earth and Mars are instant, so mission control would constantly interfere.
- D) The spacecraft would overheat because it moves closer to the Sun on the way to Mars.

Part B: Fill in the Blank

Write the correct answer on each line.

1. NASA's Artemis program aims to return astronauts to the _____ for the first time since 1972.

2. Solar _____ provide electricity to spacecraft by converting sunlight into energy.

Part A: Multiple Choice

Circle the best answer for each question.

- | | |
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| <p>1. Astronauts on the International Space Station experience weightlessness. What is the best explanation for this?</p> <ul style="list-style-type: none"><input type="radio"/> A) The space station is so far from Earth that gravity no longer reaches it.<input checked="" type="radio"/> B) The station and astronauts are in constant free fall around Earth, creating the sensation of weightlessness.<input type="radio"/> C) The station's engines cancel out the force of gravity inside the cabin.<input type="radio"/> D) There is no air in space, and without air there is no gravity. | <p>2. Scientists want to build a base on the Moon before attempting a crewed mission to Mars. Which reason best supports this plan?</p> <ul style="list-style-type: none"><input type="radio"/> A) The Moon has a thick atmosphere that protects against radiation just like Earth.<input checked="" type="radio"/> B) The Moon is much closer than Mars, so it is a safer place to test life-support technology.<input type="radio"/> C) The Moon has abundant liquid water that could supply a Mars-bound crew.<input type="radio"/> D) Rockets cannot carry enough fuel to reach Mars without stopping on the Moon first. |
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