

Name _____

Moons and Planets: Exploring the Universe's Cosmic Partnerships

Open-Ended Response Answer Key

1. Answers may vary but could include descriptions of a night sky on Mercury with no moons, highlighting the prominence of the Sun and stars, as well as the absence of lunar phases.
2. Benefits of having moons for space exploration include potential landing sites, resources, and scientific research opportunities. Challenges may involve planning for moon-based missions and mitigating environmental risks.
3. The presence or absence of moons can influence factors like gravitational forces, tides, and surface temperatures. Larger moons can cause more significant tides and stabilize a planet's axial tilt, while smaller moons may have minimal effects.
4. Gas giant planets' larger sizes and gravitational fields allow them to capture and retain more moons. This diversity of moons can offer a wide range of scientific research opportunities and contribute to the complexity of these planetary systems.

