

Chapter 21

Use with Section 3

ENRICHMENT

● Exploration of the Moon

Interpreting Facts

Use the information in the table and a calculator to help you answer the questions.

Facts about the moon	
Diameter at the equator: 3476 km	Period of rotation: about 27.3 days
Circumference at the equator: 10 920 km	Period of revolution around Earth: about 27.3 days
Density: 3.3 g/cm ³	Length of day and night: about 15 Earth days each
Gravity: 1/6 of Earth's	Temperature: high: 127°C daytime low: -170°C nighttime
Distance from Earth: closest: 356 400 km farthest: 406 700 km average: 384 400 km	Atmosphere: almost none

- Earth's circumference at the equator is 39 843 km. How many times larger is it than the moon's circumference? _____
- How many times will the moon revolve around Earth in 92 days? _____
- How many times will the moon rotate on its axis in 92 days? _____
- If a rock has a mass of 0.15 kg on the moon, what will its mass be on Earth? _____

- If a space colonist weighs 800.15 newtons on Earth, what would the colonist weigh on the moon?

- Use the average distance to the moon to answer this question. If astronauts travel to the moon and back to Earth again in 144 hours, how many kilometers per hour do they travel?

- If the space colonists travel at 6000 km/h, how long will it take them to get to the moon from Earth when the moon is at its farthest point from Earth? Its nearest point to Earth? Round your answers to the nearest hour. _____
- How much time would the space colonists in Question 7 save if they traveled to the moon when it was at its nearest point rather than its farthest point from Earth? _____
- With the extremes of temperatures on the moon, what would a moon colony need to protect people from the temperatures? _____

