Gravity and Motion (pp. 474–477)

This section describes the two factors that keep the planets in orbit around the sun and moons in orbit around planets.

Use Target Reading Skills

Before you read, preview the red headings in this section of the textbook. Then complete the graphic organizer by writing each red heading and a question about that topic. Answer your questions as you read.

Heading	Question	Answer
Gravity		

Gravity (pp. 474–476)

1. Is the following statement true or false? Forces on Earth are different from those elsewhere in the universe. _____

2. What is the law of universal gravitation?

_____

_____

3. What two factors determine the strength of the force of gravity between two objects?

a. _____

b. _____

4. Complete the cause and effect table to show the relationship among mass, distance, and the force of gravity between two objects.

CAUSE		EFFECT
If mass	*and distance*	*then the force of gravity between two objects*
increases	stays the same	**a.**
b.	stays the same	decreases.
stays the same	decreases	**c.**
stays the same	increases	**d.**

e. Use the information in the table to write one or two sentences about the relationship among mass, distance, and the force of gravity between two objects.

_____

_____

_____

_____

Inertia and Orbital Motion (pp. 476–477)

5. What is inertia?

_____

_____

_____

6. Isaac Newton concluded that two factors combined to keep the planets in orbit. Name them.

a._____

b._____

7. Circle the letter of each statement that is true about the moon's orbit around Earth.

a. Earth's gravity pulls the moon toward it.
b. The moon keeps moving ahead because of gravity.
c. The moon would stop moving if Earth's gravity did not pull on it.
d. Inertia keeps the moon moving ahead.