

Earth, Moon, and Sun ▪ *Guided Reading and Study*

Gravity and Motion

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

Complete the first column in the chart by previewing the red headings and asking a what, how, or where question for each. As you read the section, complete the second column with the answers. The first question is done for you. Answer that question, and then think of another one about gravity.

Question	Answer
What is gravity?	a. Gravity is
b. (Gravity)	c.
d. (Inertia and Orbital Motion)	e.

Gravity

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. _____

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Gravity and Motion *(continued)*

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

CAUSE		EFFECT
<i>If mass</i>	<i>and distance</i>	<i>then the force of gravity between two objects</i>
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

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.