Chapter 25  The Solar System

Section 25.1 Exploring the Solar System
(pages 790–794)

This section explores early models of our solar system. It describes the components of the solar system and scientific exploration of the solar system.

Reading Strategy (page 790)
Comparing and Contrasting  After you read, compare the geocentric and heliocentric systems by completing the table below. For more information on this Reading Strategy, see the Reading and Study Skills in the Skills and Reference Handbook at the end of your textbook.

<table>
<thead>
<tr>
<th>Solar System Models</th>
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<tbody>
<tr>
<td>Location of Earth</td>
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<tr>
<td>Geocentric System</td>
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<tr>
<td>Heliocentric System</td>
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</table>

Models of the Solar System (pages 790–791)

1. Is the following sentence true or false? In the Northern Hemisphere, the stars appear to circle around the North Star. ______________

2. Many ancient Greeks thought ______________ was the center of the universe. Circle the correct answer.
   a. Earth   b. the moon   c. the sun

3. Circle the letter of each sentence that is true about a geocentric model.
   a. Earth is stationary at the center.
   b. Objects in the sky move around Earth.
   c. The sun is the center of the solar system.

4. Name the center of the solar system in a heliocentric model.
   ______________

5. Is the following sentence true or false? The first heliocentric model was widely accepted by most ancient Greeks. ______________

6. Is the following sentence true or false? The sun, moon, and stars appear to move because Earth is rotating on its axis. ______________
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Planetary Orbits (page 792)

7. Planets move around the sun in orbits that are in the shape of a(n) _____________. Circle the correct answer.
   circle   rectangle   ellipse

8. The plane containing Earth’s orbit is called the ________________.

9. Circle the letter of the factors that combine to keep the planets in orbit around the sun.
   a. gravity
   b. inertia
   c. mass

Components of the Solar System (pages 792–793)

10. Circle the letters that identify objects in our solar system.
    a. planets
    b. the stars other than the sun
    c. the sun

11. Is the following sentence true or false? All of the planets have moons. ______________

12. Unlike the sun, planets and moons do not produce their own _______________. Circle the best answer.
    atmosphere   light   orbit

13. Is the following sentence true or false? The sun’s mass is smaller than the combined mass of the rest of the solar system. ______________

Exploring the Solar System (pages 793–794)

14. Circle the letters of types of modern technology that scientists use to explore the solar system.
    a. Complex telescopes
    b. Piloted spacecraft
    c. Weather balloons

15. An unpiloted vehicle that sends data back to Earth is called a(n) ________________. Circle the correct answers.
    Hubble telescope   space probe   space station