Chapter 26   Exploring the Universe

Section 26.1 The Sun
(pages 828–833)
This section describes how the sun produces energy. It also describes the sun's interior and atmosphere.

Reading Strategy (page 828)
Build Vocabulary Copy the table on a separate sheet of paper and add more lines as needed. As you read, write a definition of each vocabulary term in your own words. 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>Vocabulary Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
<td>the place where fusion occurs - inner most layer</td>
</tr>
<tr>
<td>Radiation zone</td>
<td>region of highly compressed gas, transferred by absorption / reradiation</td>
</tr>
<tr>
<td>Convection zone</td>
<td>outer layer; gases move through convection currents</td>
</tr>
</tbody>
</table>

Energy from the Sun (pages 828–829)
1. The sun gives off a large amount of energy in the form of electromagnetic radiation.
2. Circle the letter of each sentence that is true about nuclear fusion in the sun.
   a. Less massive nuclei combine into more massive nuclei.
   b. The end product of fusion is hydrogen.
   c. Fusion is a type of chemical reaction.
   d. Hydrogen nuclei fuse into helium nuclei.

Forces in Balance (page 829)
3. For the sun to be stable, inward and outward forces within it must be in balanced.
4. Is the following sentence true or false? The sun remains stable because the inward pull of gravity balances the outward push of thermal pressure from nuclear fission. true

The Sun's Interior (pages 830–831)
5. Circle the letter of each layer of the sun's interior.
   a. the radiation zone  c. the convection zone
   b. the photosphere     d. the core

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6. Circle the letter of each way that energy moves through the sun.
   a. gravity     b. convection     c. radiation     d. nuclear fusion
7. List the layers of the sun’s interior shown on the diagram.
   a. (about 200,000 km thick)
   b. (about 300,000 km thick)
   c. (about 400,000 km in diameter)
   
   a. convection zone
   b. radiative zone
   c. core

The Sun’s Atmosphere (page 831)
8. Circle the letter of each layer of the sun’s atmosphere.
   a. photosphere     b. chromosphere     c. corona     d. core
9. When can the corona be seen? during a solar eclipse

Features of the Sun’s Atmosphere (pages 832–833)

Match each description to a feature of the sun’s atmosphere.

- **b** 10. Spectacular features of the sun’s atmosphere that occur near sunspots
- **c** 11. Areas of gas in the atmosphere that are cooler than surrounding areas
- **a** 12. Sudden releases of energy that produce X-rays and hurl charged particles into space

Feature of Sun’s Atmosphere
- a. solar flares
- b. prominences
- c. sunspots