

Chapter 24 Studying the Sun

# Section 24.3 The Sun

(pages 684–690)

*This section describes the structure of the sun, features on the sun’s surface, and nuclear fusion in the interior of the sun.*

### Reading Strategy (page 684)

Preview the Key Concepts, topic headings, vocabulary, and figures in this section. In the table, list two things you expect to learn. After reading, complete the table, stating what you have learned about each item you listed. 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.

What I Expect to Learn	What I Learned
a.	b.
c.	d.

### Structure of the Sun (pages 685–686)

- ☛ The four main parts of the sun are the solar interior, the visible surface (photosphere), the chromosphere, and the \_\_\_\_\_.
- The solar wind is a stream of \_\_\_\_\_ and electrons that boil from the corona.

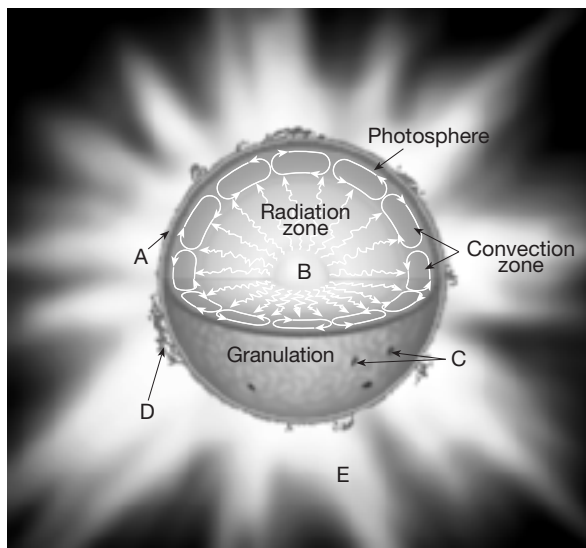
*Match each description with its sun layer.*

Description	Sun Layer
_____ 3. outermost part of the sun’s atmosphere	a. chromosphere b. photosphere c. corona
_____ 4. relatively thin layer of the sun’s atmosphere	
_____ 5. layer that radiates most of the sunlight we can see	

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6. Select the appropriate letter in the figure that identifies each of the following features.

- \_\_\_\_\_ prominence
- \_\_\_\_\_ chromosphere
- \_\_\_\_\_ sunspots
- \_\_\_\_\_ corona
- \_\_\_\_\_ core



**The Active Sun (pages 687–688)**

Match each description with its sun feature.

- | Description   | Sun Feature    |
|---|----------------|
| _____ 7. dark region on the surface of the photosphere  | a. solar flare |
| _____ 8. brief outburst associated with sunspot clusters  | b. sunspot     |
| _____ 9. huge cloudlike structure of chromospheric gases  | c. prominence  |
| 10. Is the following sentence true or false? Different parts of the sun rotate at different speeds. _____   |                |
| 11. <input type="radio"/> Prominences are ionized gases trapped by _____ extending from regions of intense solar activity. Circle the correct answer. |                |
| sun spots                      magnetic fields                      solar flares  |                |
| 12. <input type="radio"/> The three main forms of energy released by solar flares are _____, radio, and X-ray radiation.                              |                |
| 13. Solar flares can cause spectacular _____, or northern and southern lights, in Earth’s atmosphere.   |                |

**The Solar Interior (pages 689–690)**

14. Is the following sentence true or false? The sun produces energy by nuclear fission. \_\_\_\_\_
15.  During nuclear fusion, \_\_\_\_\_ is converted into energy.

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## WordWise

Complete the sentences by using the vocabulary terms below.

corona  
photons  
solar flares  
sunspots  
photosphere  
Doppler effect

continuous spectrum  
electromagnetic spectrum  
radio telescope  
spectroscopy  
refracting telescope

Sunspots are associated with brief outbursts called \_\_\_\_\_.

\_\_\_\_\_ are dark regions on the surface of the photosphere.

The study of the properties of light that depend on wavelength is

\_\_\_\_\_.

A(n) \_\_\_\_\_ uses wire mesh as a reflector to collect radiation from space.

The siren from an ambulance that is approaching you seems louder because of the \_\_\_\_\_.

Galileo used a(n) \_\_\_\_\_ that had a lens to bend light.

The \_\_\_\_\_ is the outermost part of the sun's atmosphere.

Most of the sunlight we can see comes from the \_\_\_\_\_ of the sun.

The \_\_\_\_\_ is the arrangement of electromagnetic waves according to their wavelengths and frequencies.

\_\_\_\_\_ are particles of light.

An uninterrupted band of color produced by a prism is a(n)

\_\_\_\_\_.