

**Chapter 6 Chemical Bonds**

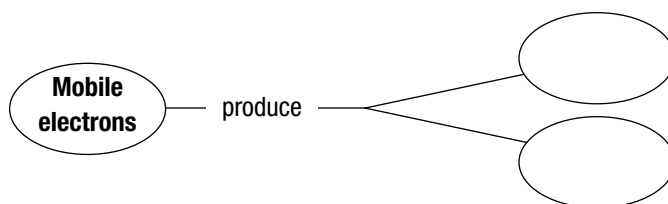
**Section 6.4 The Structure of Metals**

**(pages 176–181)**

*This section discusses metallic bonds and the properties of metals. It also explains how the properties of an alloy are controlled.*

**Reading Strategy (page 176)**

**Relating Cause and Effect** As you read, complete the concept map to relate the structure of metals to their properties. 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.



1. Circle the letter of the metal with the highest melting point.
 

a. gold	b. vanadium
c. titanium	d. tungsten
2. Is the following sentence true or false? The properties of a metal are related to bonds within the metal. \_\_\_\_\_

**Metallic Bonds (pages 176–177)**

3. Describe a metallic bond. \_\_\_\_\_  
\_\_\_\_\_
4. The cations in a metal form a lattice. What holds the lattice in place? \_\_\_\_\_  
\_\_\_\_\_
5. Is the following sentence true or false? The more valence electrons a metal has, the stronger its metallic bonds will be. \_\_\_\_\_

**Explaining Properties of Metals (page 177)**

6. Some of the properties of metals can be explained by the \_\_\_\_\_ of the electrons within a metal lattice.
7. Name two important properties of metals that can be explained by metallic bonding.
 

a. _____	b. _____
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**Alloys (pages 178–181)**

8. Circle the letter of the percentage of gold in jewelry that is labeled 18-karat gold.
 

a. 18 percent	b. 50 percent
c. 75 percent	d. 100 percent

