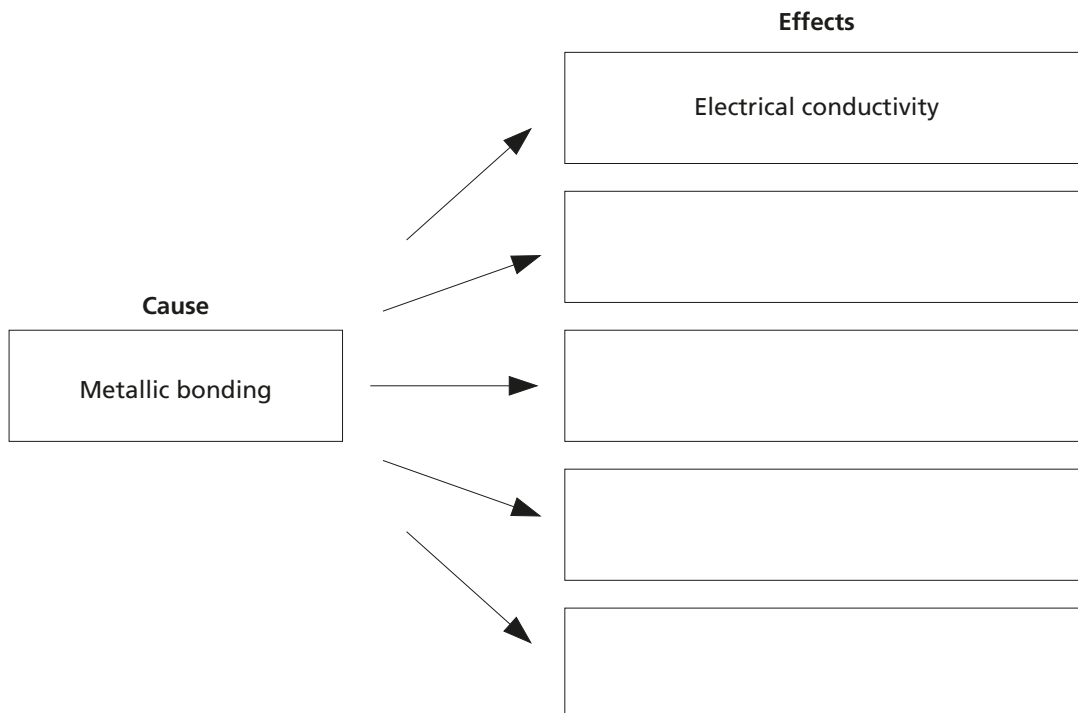


Atoms and Bonding ▪ *Reading/Notetaking Guide***Bonding in Metals** (pp. 198–203)

This section describes how the properties of metals and alloys compare and how metal atoms combine. It also describes how the properties of solid metals are explained by the “sea of electrons” model of metallic bonding.

Use Target Reading Skills

As you read, identify the properties of metals that result from metallic bonding. Write the information in the graphic organizer below.

**Metals and Alloys** (p. 199)

1. A(n) _____ is a material made of two or more elements, at least one of which is a metal.
2. List four properties of metals.

3. Give an example of an alloy and tell how its properties may make it more useful than a pure metal.

Atoms and Bonding ▪ *Reading/Notetaking Guide***Bonding in Metals** *(continued)***Metallic Bonding** (p. 200)

4. Circle the letter of each sentence that is true about metals and metallic bonding.
- a. Atoms of most metals have one, two, or three valence electrons.
 - b. Metal atoms usually gain valence electrons when they combine chemically with other atoms.
 - c. In chemical reactions, metal atoms usually become positively charged ions.
 - d. Atoms of metals lose electrons easily.
5. What does a metal crystal consist of?

6. What is a metallic bond?

Metallic Properties (pp. 201–203)

7. Complete the following table about metallic properties. In the first column, write the four properties of metals you listed in question 2. In the middle column, tell how metallic bonding contributes to each property. In the last column, give an example of how each property can be put to use.

Metallic Property	Explanation	Example of Use