Bonding in Metals

This section describes how atoms of solid metals form bonds. It also explains how metallic bonds give metals and their alloys their useful properties.

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

5. A(n) __________________ is a material made of two or more elements that has the properties of a metal.

   __________________________________________
   __________________________________________
   __________________________________________
   __________________________________________

7. Give an example of an alloy and tell how its properties may be more useful than a pure metal.
   __________________________________________
   __________________________________________
   __________________________________________
   __________________________________________
Metallic Bonding

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?
   ____________________________________________________________
   ____________________________________________________________

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 how each property can be put to use.

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<thead>
<tr>
<th>Metallic Property</th>
<th>Explanation</th>
<th>Example of Use</th>
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