

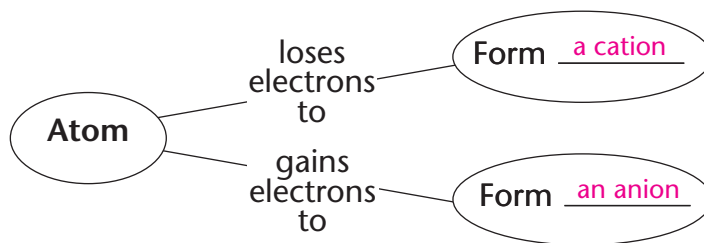
Chapter 6 Chemical Bonds

Section 6.1 Ionic Bonding**(pages 158–164)**

This section describes the formation of ionic bonds and the properties of ionic compounds.

Reading Strategy (page 158)

Sequencing As you read, complete the concept map to show what happens to atoms during ionic bonding. 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.

**Stable Electron Configurations (page 158)**

- Circle the letter that describes the type of electron configuration that makes an atom stable and not likely to react.
 - The lowest energy level of an atom is filled.
 - The highest energy level of an atom is filled.
 - All the energy levels of an atom are filled.
- Define an electron dot diagram. An electron dot diagram is a model of an atom in which each dot represents a valence electron.

Ionic Bonds (pages 159–161)

- Some elements achieve stable electron configurations through the transfer of electrons between atoms.
- Circle the letter that states the result of a sodium atom transferring an electron to a chlorine atom.
 - Each atom ends up with a more stable electron arrangement.
 - The sodium atom becomes more stable, but the chlorine atom becomes less stable.
 - The chlorine atom becomes more stable, but the sodium atom becomes less stable.

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5. Is the following sentence true or false? An ion is an atom that has a net positive or negative electric charge. true
6. An ion with a negative charge is called a(n) anion.
7. An ionic bond forms when _____ are transferred from one atom to another. Circle the correct answer.
- electrons protons ions
8. Is the following sentence true or false? The lower the ionization energy, the easier it is to remove an electron from an atom. true

Ionic Compounds (pages 161–164)

9. Circle the letter of each piece of information provided by the chemical formula of an ionic compound.
- a. which elements the compound contains
 - b. the charge on each ion in the compound
 - c. the ratio of ions in the compound
10. Circle the letter of the correct answer. The formula for magnesium chloride is MgCl_2 . The charge on the magnesium ion is $2+$. What is the charge on each chloride ion?
- a. $2-$
 - b. $1-$
 - c. $1+$
11. Circle two factors that determine the arrangement of ions in an ionic crystal.
- a. The ratio of ions
 - b. The size of the ion charge
 - c. The relative sizes of the ions
12. Is the following sentence true or false? The attractions among ions within a crystal lattice are weak. false