

Directed Reading B

(use with pages 8 -11)

Section: Ionic Bonds**FORMING IONIC BONDS****Write the letter of the best answer for each question in the blank provided.**

____ 1. What do you call a bond that forms when electrons are transferred from one atom to another?

- a. compound bond b. ionic bond c. crystal bond d. atomic bond

Charged Particles

____ 2. What are charged particles that form when atoms gain or lose electrons?

- a. ions b. atomic ions c. bonds d. particle atoms

3. Ions are charged particles because the number of _____

(positive particles) no longer equals the number of _____

(negative particles), because the number of _____ has changed.

FORMING POSITIVE IONS

____ 4. What charge does a sodium ion have?

- a. 1- b. 1+ c. 2- d. 2+

____ 5. What is the chemical symbol for a sodium ion?

- a. S
- ⁺
- b. S
- ⁻
- c. Na
- ⁺
- d. Na
- ⁻

Read the words in the box. Read the sentences. Fill in each blank with the word or phrase that best completes the sentence.

| | | | | |
|----------------------|---------------|----------------------|--------------------------|------------|
| positive ions | energy | negative ions | valence electrons | ion |
|----------------------|---------------|----------------------|--------------------------|------------|

6. If a sodium atom loses its only valence electron, it becomes a(n) _____.

7. For electrons to pull away from atoms, _____ is needed.

8. When atoms lose electrons in an ionic bond, they become _____.

9. Most metals have few _____ and form positive ions.

10. The energy needed to take electrons from metals comes from the formation of _____.

Name _____ Class _____ Date _____

Directed Reading B *continued*

FORMING NEGATIVE IONS

- _____ 11. When atoms gain electrons during chemical changes, what charge do they have?
- a. positive charge b. negative charge c. neutral charge d. electric charge
- _____ 12. The symbol for oxide is O^{2-} . How many electrons did the oxygen atom gain?
- a. 0 b. 1 c. 2 d. 3

Nonmetal Atoms Gain Electrons

- _____ 13. What ending is used for the names of negative ions?
- a. *-ion* b. *-ade* c. *-ide* d. *-ite*

The Energy of Gaining Electrons

- _____ 14. What do atoms of group 17 elements give off when they gain electrons?
- a. energy b. protons c. bonds d. charges

IONIC COMPOUNDS

- _____ 15. What is the regular pattern that forms when ions bond?
- a. compound b. chemical compound c. crystal lattice d. ionic bond
- _____ 16. Which of the following is a property of a crystal lattice?
- a. low melting point b. high melting point c. low boiling point d. malleability