Name _____ Class_____Date_____

Skills Worksheet

Directed Reading A

Section: Ionic Bonds

FORMING IONIC BONDS

1. A chemical bond that forms when electrons are transferred from one atom to another is a(n) _____
2. Charged particles that form when atoms gain or lose electrons are _____
3. A transfer of electrons between atoms changes the number of electrons in an atom, but the number of _____ stays the same.
4. Why is an atom neutral?

_____

_____

_____

5. Why are ions charged particles and thus no longer neutral?

_____

_____

_____

_____

FORMING POSITIVE IONS

_____ 6. When atoms lose electrons through an ionic bond, they become
   a. positively charged.
   b. neutral.
   c. negatively charged.
   d. uncharged.

7. Most metals have few _____ and form positive ions.
8. If a sodium atom loses its only valence electron to another atom, the sodium atom becomes a sodium _____
9. A sodium ion has a charge of _____
10. The chemical symbol for a sodium ion is _____
11. When electrons pull away from atoms, _____ is needed.

12. Where does the energy needed to take electrons from metals come from?

_____

FORMING NEGATIVE IONS

_____ 13. Some atoms gain electrons during chemical changes and have a
   a. positive charge.
   b. negative charge.
   c. neutral charge.
   d. chemical charge.

_____ 14. The symbol for oxide is O^{2-}. How many electrons did the oxygen atom gain?
   a. 0
   b. 1
   c. 2
   d. 3

_____ 15. What ending is used for the names of negative ions?
   a. *-ion*
   b. *-ade*
   c. *-ide*
   d. *-ite*

16. Atoms of Group _____ elements give off the most energy when they gain an electron.

17. When is energy given off by most nonmetals?

_____

_____

18. When does an ionic bond form between a metal and a nonmetal?

_____

_____

_____

IONIC COMPOUNDS

_____ 19. When ions bond, they form a repeating three-dimensional patterned called a(n)
   a. compound.
   b. crystal lattice.
   c. chemical bond.
   d. ionic bond.

20. Why does the compound formed by an ionic bond have a neutral charge when the ions that bond are charged?

_____

_____

_____

21. List three properties of ionic compounds within a crystal lattice.

_____

_____

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