

Directed Reading A

Section: Ionic and Covalent Compounds

- _____ 1. What is the force of attraction that holds atoms or ions together called?
- a. valence electrons
 - b. ionic compounds
 - c. chemical bond
 - d. compound cement
- _____ 2. What are the electrons found in the outermost energy levels of an atom called?
- a. valence electrons
 - b. ionic electrons
 - c. covalent electrons
 - d. compound electrons

IONIC COMPOUNDS AND THEIR PROPERTIES

- _____ 3. An ionic bond is an attraction between
- a. positively charged ions
 - b. oppositely charged ions
 - c. negatively charged ions
 - d. metallic ions
- _____ 4. When a metal meets a nonmetal, electrons are transferred and the metal atoms become
- a. positively charged
 - b. neutral
 - c. negatively charged
 - d. oppositely charged
- _____ 5. When a metal meets a nonmetal, the nonmetal atom becomes
- a. positively charged
 - b. neutral
 - c. negatively charged
 - d. oppositely charged
- _____ 6. Table salt is formed when an electron is transferred from a sodium atom to a
- a. metal atom.
 - b. chlorine atom.
 - c. nonmetal atom.
 - d. positively charged atom.
- _____ 7. Ionic compounds tend to be brittle solids
- a. at room temperature.
 - b. at high temperatures.
 - c. outdoors.
 - d. when wet.
- _____ 8. In a crystal lattice each ion is bonded to the
- a. pattern it is made with.
 - b. ions around it.
 - c. compound around it
 - d. crystal's edge.
- _____ 9. When an ionic compound is hit, the pattern shifts, ions repel each other and the crystal
- a. becomes more solid.
 - b. forms a new lattice.
 - c. breaks apart.
 - d. becomes bonded.

- _____ 10. Because strong ionic bonds hold ions together, ionic compounds have
- a. a low melting point.
 - b. a lukewarm melting point.
 - c. a high melting point.
 - d. a variable melting point.

- _____ 11. Many ionic compounds dissolve easily
- a. in air.
 - b. at high temperatures.
 - c. in water.
 - d. in electric current.

12. When an ionic compound dissolves in water, why can it conduct electric current?

COVALENT COMPOUNDS AND THEIR PROPERTIES

- _____ 13. Covalent compounds are formed when a group of atoms share
- a. uncharged particles.
 - b. neutrons.
 - c. protons.
 - d. electrons.

- _____ 14. Compared with ionic bonds, covalent bonds are
- a. weaker.
 - b. stronger.
 - c. larger.
 - d. smaller.

- _____ 15. The group of atoms that make up a covalent compound is called a(n)
- a. bond.
 - b. electron.
 - c. molecule.
 - d. atom.

16. What does it mean if a substance is not soluble in water?

17. Why are covalent compounds often not soluble in water?

18. Why do covalent compounds have lower melting points than ionic compounds?

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Directed Reading A *continued*

19. Why doesn't sugar dissolved in water conduct electric current?

20. How are acids that have been dissolved in water able to conduct an electric current?
