

Vocabulary and Section Summary B

Chemical Formulas and Equations

VOCABULARY

After you finish reading the section, try this puzzle! Use the definitions below to unscramble the vocabulary words.

1. a substance that forms in a chemical reaction

DORCUTP _____

2. a combination of chemical symbols and numbers used to represent a substance

HACCILME AFLOUMR _____

3. a representation of a chemical reaction that uses symbols to show the relationship between the reactants and the products

LEHCMACI NOQTEAUI _____

4. a substance or molecule that participates in a chemical reaction

AANETTTCR _____

5. law that states that mass cannot be created or destroyed in ordinary chemical and physical changes

WAL FO VACESRONNOIT FO SAMS _____

SECTION SUMMARY

Read the following section summary.

- A chemical formula uses symbols and subscripts to describe the makeup of a compound.
- Chemical formulas can often be written from the names of covalent and ionic compounds.
- A chemical equation uses chemical formulas, chemical symbols, and coefficients to describe a reaction.
- A balanced equation has the same numbers and kinds of atoms on each side of the equation.
- A balanced equation shows the law of conservation of mass: mass is neither created nor destroyed during ordinary physical and chemical changes.

Directed Reading B

Section: Ionic and Covalent Compounds

- _____ 1. What is a chemical bond?
- the outermost energy level of an atom
 - the interaction that holds atoms and ions together
 - a repeating three-dimensional pattern
 - a positively charged ion
- _____ 2. What are the electrons found in the outermost energy levels of an atom called?
- valence electrons
 - ionic electrons
 - covalent electrons
 - compound electrons

IONIC COMPOUNDS AND THEIR PROPERTIES

- _____ 3. An ionic bond is an attraction between
- positively charged ions.
 - oppositely charged ions.
 - negatively charged ions.
 - metallic ions.
- _____ 4. When a metal meets a nonmetal, the metal atoms become
- positively charged.
 - neutral.
 - negatively charged.
 - chemically charged.
- _____ 5. When a metal meets a nonmetal, the nonmetal atom becomes
- positively charged.
 - neutral.
 - negatively charged.
 - chemically charged.
- _____ 6. Table salt is formed when an electron is transferred from a sodium atom to a
- metal atom.
 - chlorine atom.
 - nonmetal atom.
 - positively charged atom.

Directed Reading B *continued*

- _____ **7.** Ionic compounds tend to be brittle solids
- a.** at room temperature.
 - b.** at high temperatures.
 - c.** at any temperature.
 - d.** when wet.
- _____ **8.** In a crystal lattice, each ion is bonded to the
- a.** pattern it is made with.
 - b.** surrounding ions of the opposite charge.
 - c.** surrounding ions of the same charge.
 - 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 atoms share
- a.** uncharged particles.
 - b.** neutrons.
 - c.** protons.
 - d.** electrons.