

**Chapter 2 The Chemistry of Life****Section 2-1 The Nature of Matter (pages 35-39)****Key Concepts**

- What three subatomic particles make up atoms?
- How are all of the isotopes of an element similar?
- What are the two main types of chemical bonds?

**Atoms (page 35)**

1. The basic unit of matter is called a(an) \_\_\_\_\_.
2. Describe the nucleus of an atom. \_\_\_\_\_  
\_\_\_\_\_
3. Complete the table about subatomic particles.

**SUBATOMIC PARTICLES**

Particle	Charge	Location in Atom
	Positive	
	Neutral	
	Negative	

4. Why are atoms neutral despite having charged particles? \_\_\_\_\_  
\_\_\_\_\_

**Elements and Isotopes (page 36)**

5. What is a chemical element? \_\_\_\_\_  
\_\_\_\_\_
6. What does an element's atomic number represent? \_\_\_\_\_  
\_\_\_\_\_
7. Atoms of the same element that differ in the number of neutrons they contain are known as \_\_\_\_\_.
8. How are isotopes identified? \_\_\_\_\_
9. Why do all isotopes of an element have the same chemical properties? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Chemical Compounds (page 37)

10. What is a chemical compound? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

11. What does the formula for table salt indicate about that compound?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Chemical Bonds (pages 38–39)

12. What holds atoms in compounds together? \_\_\_\_\_

13. Complete the table about the main types of chemical bonds.

**CHEMICAL BONDS**

Type	Formed when . . .
Covalent bond	
Ionic bond	

14. What is an ion? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

15. Is the following sentence true or false? An atom that loses electrons has a negative charge. \_\_\_\_\_

16. The structure that results when atoms are joined together by covalent bonds is called a(an) \_\_\_\_\_.

17. Circle the letter of each sentence that is true about covalent bonds.

a. When atoms share two electrons, it is called a double bond.

b. In a water molecule, each hydrogen atom forms a single covalent bond.

c. Atoms can share six electrons and form a triple bond.

d. In a covalent bond, atoms share electrons.

18. The slight attractions that develop between oppositely charged regions of nearby molecules are called \_\_\_\_\_.