

Chapter 2 The Chemistry of Life**Section 2–1 The Nature of Matter (pages 35–39)****TEKS FOCUS:** 3D Connection between biology and careers

This section identifies the three particles that make up atoms. It also explains how atoms of the same element can have a different number of neutrons and describes 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 _____.