Name_____ Class_____ Date _____

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? _____

_____

_____

Name_____ Class_____ Date _____

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 _____.