

SECTION

2.1

ATOMS, IONS, AND MOLECULES

Study Guide

KEY CONCEPT

All living things are based on atoms and their interactions.

VOCABULARY

atom	ion	molecule
element	ionic bond	
compound	covalent bond	

MAIN IDEA: Living things consist of atoms of different elements.

1. How are atoms and elements related?

2. Sketch the structure of an atom. Label the protons, neutrons, nucleus, and electrons.

3. How do compounds differ from elements?

MAIN IDEA: Ions form when atoms gain or lose electrons.

4. What is an ion?

5. Why does an ion have an electrical charge?

STUDY GUIDE, CONTINUED

6. In the spaces provided below, sketch how both positive and negative ions form. Label the nucleus and the electrons. Use Figure 2.3 as a reference.

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MAIN IDEA: Atoms share pairs of electrons in covalent bonds.

7. What is a covalent bond?

8. What determines the number of covalent bonds that an atom can form?

Vocabulary Check

element	compound	ion	molecule
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_____ 9. atoms held together by covalent bonds

_____ 10. composed of different types of atoms

_____ 11. composed of one type of atom

_____ 12. atom that has gained or lost electrons

13. What is the difference between how ionic and covalent bonds form?
