

Elements and the Periodic Table ▪ *Guided Reading and Study*

Introduction to Atoms

This section describes the structure of atoms and how atoms are related to elements.

Use Target Reading Skills

Before you read, preview the diagram of a carbon atom in your textbook. Then, complete the graphic organizer by writing two questions about the diagram. As you read, answer your questions.

Structure of an Atom

Q. What particles are in the center of an atom?
A.
Q.
A.

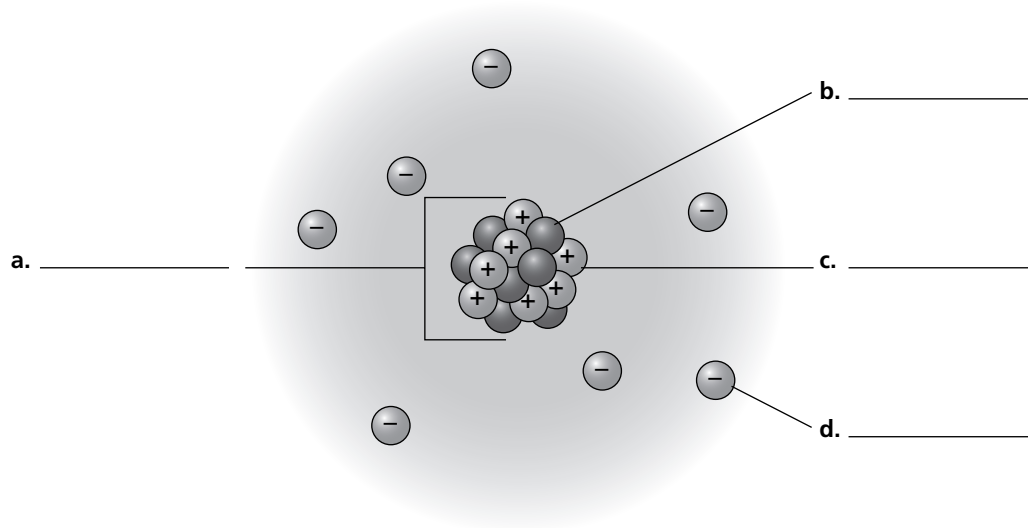
Structure of an Atom

1. Is the following sentence true or false? Atoms are the smallest particles of matter. _____

Elements and the Periodic Table ▪ Guided Reading and Study

Introduction to Atoms (Continued)

2. Label the parts of the atom in the diagram below.



3. Tell why an atom is neutral.

4. Is the following sentence true or false? Most of an atom's volume is the space in which electrons move _____.

5. What parts of an atom make up almost all the mass of an atom?

Atoms and Elements

6. An element can be identified by the number of _____ in the nucleus of its atom.

7. What is the atomic number of an element?

Elements and the Periodic Table ▪ *Guided Reading and Study*

8. What are isotopes?

9. In the space below, draw two isotopes of carbon and give the mass number for each.

Modeling Atoms

10. Circle the letter of each example of a model used in science.

- a. a diagram
- b. a mental picture
- c. a mathematical statement
- d. an object

11. Give two reasons why scientists create models to study atoms.
