

**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.

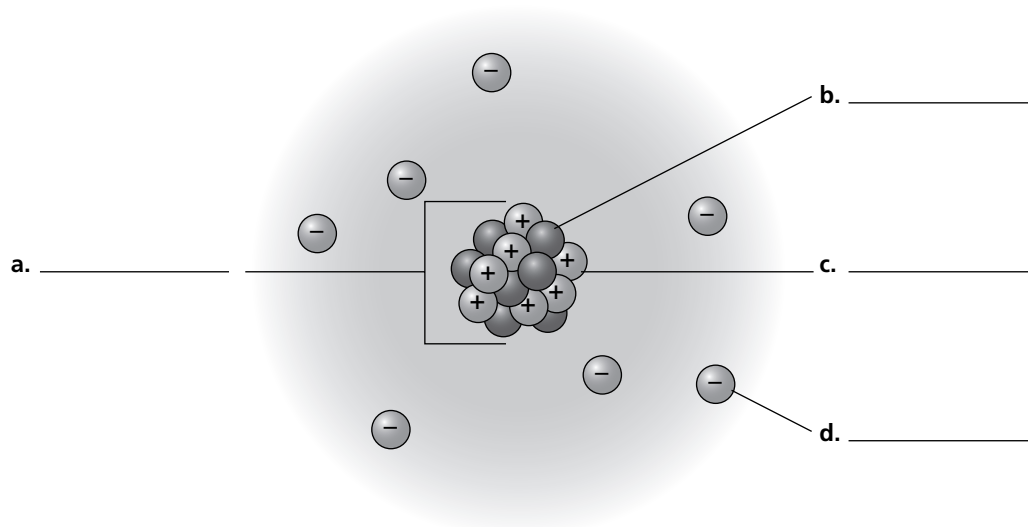
### Structure of an Atom

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

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### Introduction to Atoms (Continued)

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



3. Tell why an atom is neutral.

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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?

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## 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?

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8. What are isotopes?

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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.

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