

# Introduction to Atoms

(pages 102–108)

## Development of Atomic Models

(pages 103–105)

**Key Concept:** Atomic theory grew as a series of models that developed from experimental evidence. As more evidence was collected, the theory and models were revised.

- Different scientists suggested different models of the atom from the 1600s until today. Over time, models of the atom changed as scientists made new discoveries.
- An **atom** is the smallest piece of an element.
- An atom contains electrons. An **electron** is a particle with a negative charge. Electrons have almost no mass.
- The **nucleus** (NOO klee us) is the center of an atom. The nucleus contains particles called protons. A **proton** is a particle with a positive charge.
- Electrons can be anywhere in a cloudlike region around the nucleus. Electrons with different energy levels are found in different places around the nucleus. An electron's movement is related to its energy level. An **energy level** is an area outside the nucleus where electrons with the same amount of energy are found.

*Answer the following questions. Use your textbook and the ideas above.*

1. The smallest piece of an element is a(an)

\_\_\_\_\_.

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

2. Draw a line from each term to its meaning.

Term	Meaning
electron	a. a particle of an atom with a positive charge
energy level	b. an area outside the nucleus where electrons with the same amount of energy are found
proton	c. a particle of an atom with a negative charge

3. Is the following sentence true or false? Models of the atom changed over time as scientists made new discoveries. \_\_\_\_\_

4. The picture shows a model of an atom. Circle the nucleus of the atom.

