Name _____ Date _____ Class _____

4.1 DEFINING THE ATOM

Section Review

Objectives

- Describe Democritus's ideas about atoms
- Explain Dalton's atomic theory
- Describe the size of an atom

Vocabulary

- atom
- Dalton's atomic theory

Part A Completion

Use this completion exercise to check your understanding of the concepts and terms that are introduced in this section. Each blank can be completed with a term, short phrase, or number.

Elements are composed of tiny particles called __1__. 1. _____

Atoms of any one element are __2__ from those of any 2. _____

other element. Atoms of different elements can form __3__ 3. _____

by combining in whole-number ratios. Chemical reactions 4. _____

occur when atoms are __4__.

Part B True-False

Classify each of these statements as always true, AT; sometimes true, ST; or never true, NT.

_____ 5. Atoms of one element change into atoms of another element during chemical reactions.

_____ 6. Atoms combine in one-to-one ratios to form compounds.

_____ 7. Atoms of one element are different from atoms of other elements.

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Part C Matching

Match each description in Column B to the correct term in Column A.

Column A	Column B
_____ 8. atom	a. an instrument used to generate images of individual atoms
_____ 9. scanning tunneling microscope	b. Greek philosopher who was among the first to suggest the existence of atoms
_____ 10. John Dalton	c. the smallest particle of an element that retains its identity in a chemical reaction
_____ 11. Democritus	d. English chemist and schoolteacher who formulated a theory to describe the structure and chemical reactivity of matter in terms of atoms

Part D Questions and Problems

Answer the following questions in the space provided.

12. In what type of ratios do atoms combine to form compounds?

13. How many copper atoms would you have to line up side by side to form a line 1 m long?