Name _____ Class _____ Date _____

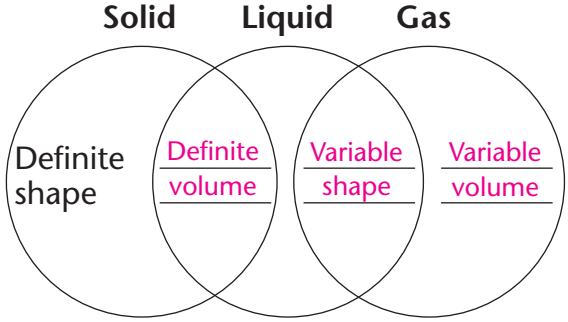
Section 3.1 Solids, Liquids, and Gases

(pages 68–74)

This section explains how materials are classified as solids, liquids, or gases. It also describes the behavior of these three states of matter.

Reading Strategy (page 68)

Comparing and Contrasting As you read about the states of matter, fill in the blanks in the diagram below with one of these phrases: *definite volume*, *variable volume*, or *variable shape*. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.



Describing the States of Matter (pages 68–70)

1. What are three common states of matter?

   a. Solids b. Liquids c. Gases

2. Is the following sentence true or false? The fact that a copper wire can be bent shows that some solids do not have a definite shape. false

3. Circle the letter of each phrase that describes how particles at the atomic level are arranged within most solids.

   a. randomly arranged
   b. packed close together
   c. arranged in a regular pattern

4. Is the following sentence true or false? A liquid takes the shape of its container. true

5. Is the following sentence true or false? A gas takes the shape and volume of its container. true

6. On the sun, where temperatures are extremely high, matter exists in a state known as _____. Circle the correct answer.

   plasma liquid condensation

7. Complete the table about states of matter.

States of Matter		
State	**Shape**	**Volume**
Solid	Definite	Definite
Liquid	Not definite	Definite
Gas	Not definite	Not definite

Kinetic Theory (page 71)

8. Define kinetic energy. Kinetic energy is the energy an object has due to its motion.

9. Circle the letter of the phrase that describes all particles of matter in the kinetic theory of matter.

a. randomly arranged
b. constant temperature
(c.) in constant motion

Explaining the Behavior of Gases (pages 72–73)

10. Is the following sentence true or false? There are forces of attraction among the particles in all matter. true

11. Is the following sentence true or false? Because of the constant motion of the particles in a gas, the gas has a definite shape and volume.

false

Explaining the Behavior of Liquids (page 73)

12. Do forces of attraction have a stronger effect on the behavior of the particles in a gas or in a liquid? a liquid

13. Circle the letter of each factor that affects the behavior of liquids.

a. fixed location of particles
(b.) constant motion of particles
(c.) forces of attraction among particles

Explaining the Behavior of Solids (page 74)

14. Solids have a definite volume and shape because particles in a solid vibrate in _____ locations. Circle the correct answer.

orderly several (fixed)