Name Study Guide Date Class

Chapter Test A — Combining Atoms and Molecules

CHAPTER 5 → Chapter 6

Part A. Multiple Choice

Directions: *In the space at the left, write the [redacted] term or phrase that correctly answers each question.*

_____ 1. Which term describes an atom that gains an electron and becomes negatively charged?

[redacted]

_____ 2. Which term describes the number of electrons in the outermost energy level?

[redacted]

_____ 3. What are two-thirds of the elements on the periodic chart?

[redacted]

Part B. Matching

Directions: *Write the [redacted] correct term on the line next to its description. Answers may be used only once.*

Matching Set 1

_____ 1. atom that is no longer neutral because it has gained or lost electrons

_____ 2. a neutral particle that forms as a result of electron sharing

_____ 3. pure substances that contain two or more elements

[redacted]

Matching Set 2

_____ 4. ionic compound with only two different ions

_____ 5. force that holds atoms together

_____ 6. bond between oppositely charged particles

[redacted]

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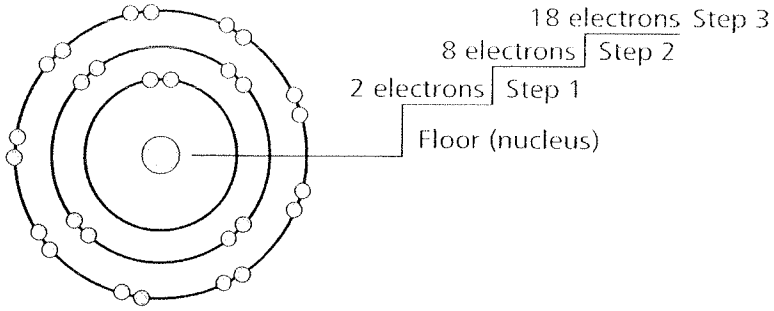
Chapter Test A CONTINUED

Part C. Using a Diagram

Directions: *The following diagram shows energy steps of electrons arranged around the nucleus of an atom. Use the diagram to respond to statements 1 and 2.*



1. **Conclude** which electrons will have the higher energy (Step 1, Step 2, Step 3).

2. **Predict** which electrons have a stronger attraction to the nucleus (Step 1, Step 2, Step 3).

Part D. Short Answer

Directions: *Respond to each statement in the space provided.*

1. **Describe** the properties of ionic compounds.

2. **Analyze** how metals bond.

C.

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Chapter Test A CONTINUED

Part E. Concept Application

Directions: *Respond to each statement in the space provided.*

1. Think about aluminum. **List** the properties of a metal that are exhibited by aluminum foil.

2. **Explain** why dot diagrams are helpful to scientists.

3. Imagine that scientists have discovered a new element in Group 18. **Describe** some of its characteristics.

4. Mike formed an ionic compound in the lab. **Identify** the properties it may have.

Part I

1. using the periodic table draw/modle an ionic bond forming an ionic compound. (~~3~~ 4 steps)
(Li and F)

2. Draw/modle a covalent bond forming a covalent molecule. (2-3 steps)

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CHAPTER 6

Chapter Test A States of Matter

Part A. Multiple Choice

Directions: *Write the letter of the term or phrase that best answers each question in the space at the left.*

_____ 1. Which is an example of an object that might exist in the plasma state of matter?

_____ 2. Which describes the motion of particles in matter?

_____ 3. What type of energy do particles of matter have due to their motion?

Part B. Matching

Directions: *Write the letter of the correct term on the line next to its description. Answers may be used only once.*

Matching Set 1

_____ 1. change of state from a gas to a liquid

_____ 2. vaporization throughout a liquid

_____ 3. vaporization at the surface of a liquid

Matching Set 2

_____ 4. matter with a fixed volume, but not a fixed shape

_____ 5. matter with a fixed shape and volume

_____ 6. temperature at which a liquid changes to a gas

Chapter Test A CONTINUED

Part C. Completing and Using a Table

Directions: *Use the following words to complete the table:* weak, moderate, strong.

States of Matter

	Solid	Liquid	Gas
Shape	fixed	not fixed	not fixed
Volume	fixed	fixed	not fixed
Attraction between particles	1.	2.	3.

4. Use the table to explain what happens to a solid when it becomes a liquid.

5. Use the table to explain what happens to a liquid when it becomes a solid.

Part D. Short Answer

Directions: *Respond to each statement in the space provided.*

1. **Describe** three states of matter. Name an example of each.

2. **Explain** thermal energy.

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Chapter Test A CONTINUED

Part E. Concept Application

Directions: *Respond to each statement in the space provided.*

MANDATORY 1. **Describe** what happens to the temperature of water as it heats. Describe what happens to the temperature of water as it is boiling.

E.C. 2. Renoldo leaves an iced drink outside on a hot day. He notices drops of water on the outside of the cup. **Summarize** what happened to make the drops form.

MANDATORY 3. Kathy fills her thermos to the brim with water, seals it, and puts it in the freezer so it will cool quickly. She forgets about the thermos until the following day. When she opens the freezer, she finds that her thermos has cracked. **Explain** what happened.

4. Draw the Motion of atoms in the following scenarios: