

Name _____ Date _____ Class _____

Modern Chemistry • CHAPTER 5

HOMEWORK 5-1

(pp. 123–125)

SKILL BUILDER

Use the K-W-L Chart to organize your ideas about the periodic table. In the *K* column, write what you already know about the periodic table. In the *W* column, write questions that you have about the periodic table. As you read, record the answers to your questions in the *L* column. You can add to this chart or create a new one for future sections of Chapter 5.

K	W	L
What I Know	What I Want to Know	What I Learned

MORE SKILL BUILDING

1. Explain how Mendeleev developed the periodic table.

2. Explain the term *periodicity*. How does the term apply to chemistry?

STANDARDIZED TEST PREP

Circle the letter of the best answer.

1. Which statement is true?

- a. The modern periodic table was developed at the First International Congress of Chemists.
- b. Motion needs to vary uniformly in order to vary periodically.
- c. In his periodic table, Mendeleev arranged the elements in order of their atomic numbers.
- d. Mendeleev left “gaps” in his periodic table to account for missing elements.

2. Which was Stanislao Cannizzaro’s contribution to modern chemistry?

- a. He developed a method for measuring the mass of an atom.
- b. He created an accurate periodic table.
- c. He discovered the elements scandium, gallium, and germanium.
- d. He coined the term *periodicity* to account for chemical properties.

CHAPTER 4 • HOMEWORK 4-8

VOCABULARY

1. b
2. d
3. e
4. c
5. a
6. g
7. f

GRAPHIC ORGANIZER

Element	Atomic Number	Electron Configuration	Noble-Gas Configuration
Cobalt	27	$1s^2 2s^2 2p^6 3s^2 3p^6 3d^7 4s^2$	$[\text{Ar}] 3d^7 4s^2$
Zinc	30	$1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2$	$[\text{Ar}] 3d^{10} 4s^2$
Arsenic	33	$1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^3$	$[\text{Ar}] 3d^{10} 4s^2 4p^3$
Krypton	36	$1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^6$	$[\text{Ar}] 3d^{10} 4s^2 4p^6$
Zirconium	40	$1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^6 4d^2 5s^2$	$[\text{Kr}] 4d^2 5s^2$
Rhodium	45	$1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^6 4d^8 5s^1$	$[\text{Kr}] 4d^8 5s^1$

STANDARDIZED TEST PREP

1. c
2. b

CHAPTER 5 • HOMEWORK 5-1

MORE SKILL BUILDING

1. He noticed that, when elements were arranged in order of increasing atomic mass, certain similarities in their chemical properties appeared at regular intervals. He created a table in which elements with similar properties were grouped together.
2. *Periodicity* is a repeating pattern. Elements are arranged on the periodic table in patterns—they are grouped with other elements that behave similarly.

STANDARDIZED TEST PREP

1. d
2. a