

Name:..... Class:.....Date:.....

Chapter 3 Revision

Question One: Multiple Choices

1. Modern periodic law states that properties of elements repeat in a regular pattern when the elements are arranged in order of increasing _____.

- a. density
- b. atomic mass
- c. atomic number
- d. periodicity

2. All of the following elements are metals except _____.

- a. aluminum
- b. chlorine
- c. sodium
- d. Copper

3. Which element is **least** likely to be used in semiconductors?

- a. silicon
- b. phosphorus
- c. sulfur
- d. Boron

4. is credited with discovering the periodic law.

- a. Linus Pauling
- b. Artemis Halogen
- c. Dmitri Mendeleev
- d. J.W. Dobereiner

5. The second row of the periodic table includes _____ elements.

- a. 2
- b. 8
- c. 18
- d. 32

6. _____ is an un-reactive element.

- a. Hydrogen
- b. Chlorine
- c. Helium
- d. Sodium

7. All Group 1 elements have _____.

- a. one valence electron
- b. one energy level
- c. unpredictable properties
- d. one electron

8. Which of the following is not a characteristic of a metal?

- a. lustrous
- b. conducts heat
- c. brittle
- d. Flexible

9. Which groups are considered to be transition elements?

- a. 1 and 2
- b. 3 through 12
- c. 1, 2, and 18
- d. 13 through 18

10. A certain element is a gas and does not conduct electricity or heat. Which of the following is a possible number of valence electrons for the atoms of this element?

- a. 1
- b. 2
- c. 3
- d. 6

11. Most semiconductors are _____.

- a. Metals
- b. Nonmetals
- c. metalloids
- d. synthetics

12. Elements in the same group have similar _____.

- a. electron structures
- b. numbers of electrons
- c. densities
- d. periods

13. Which element is **most** likely to be used in semiconductors?

- a. silicon
- b. phosphorus
- c. sulfur
- d. boron

14. Most elements are _____.

- a. metals
- b. nonmetals
- c. metalloids
- d. synthetic

15. Which of the following is a transition element?

- a. gallium
- b. nickel
- c. aluminum
- d. tellurium

16. Horizontal rows of the periodic table are known as _____.

- a. groups
- b. families
- c. periods
- d. columns

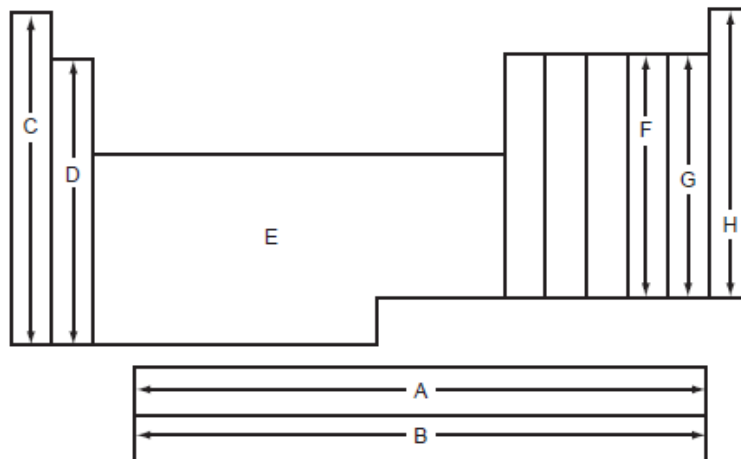
17. Columns of the periodic table are known as _____.

- a. groups
- b. periods
- c. similarities
- d. rows

Question Two:

Match each of the following terms with a letter from the periodic table in **Figure** below

- 1. alkali metals
- 2. alkaline earth metals
- 3. halogens
- 4. noble gases
- 5. transition metals



Question Three:

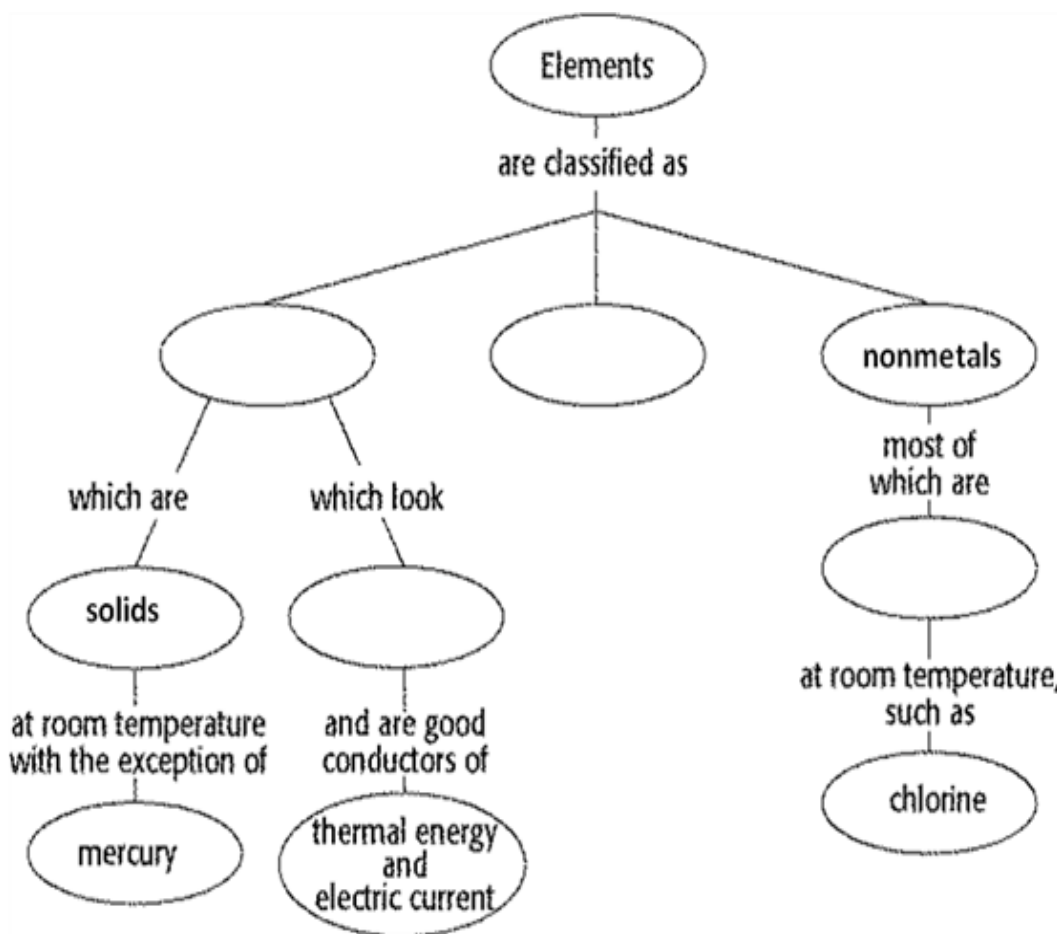
Use the outline of the periodic table to answer questions 1-7.

	1																18	
1		2											13	14	15	16	17	
2																	1	
3			3	4	5	6	7	8	9	10	11	12		4				
4	2																	
5																		
6																	3	
7																		

1. How many rows are there in the periodic table?
2. How many columns are there in the periodic table?
3. Where on the table are the elements called halogens located? the alkali metals, the noble gases?
4. Metallic properties tend to increase in which direction on the periodic table: left to right or right to left?
5. On which side of the periodic table are nonmetals located?
6. On the above outline, label the s-block, p-block and d-block.
7. For each of the numbered elements (1-4) shown in the above outline, give the information asked for in the table below.

Element	Group	Period	Class	Number of valence electrons	Number of energy levels
1					
2					
3					
4					

Question Four: Complete the following Concept Map



Question Five: Use the following table to compare between the physical properties of metals, non-metals and metalloids

Property	Metals	Non-metals	Metalloids
Appearance			
Malleable or Brittle			
Electrical Conductivity			
State			

Question Six: Answer the following Questions

1. Why are noble gases stable?

2. Explain why metals are good conductors of heat and electricity?

3. List the main groups in the periodic table.

4. Why elements in the same group have similar properties?

5. How are substances that are gases or brittle solids at room temperature classified?

6. Which group of elements contains the most active metals?

7. Which group of elements is unreactive?

8. Classify the following elements as metals, metalloids, or nonmetals.

- a. chlorine (Z _ 17)
- b. arsenic (Z _ 33)
- c. Germanium (Z_32)
- d. Iron (Z_26)
- e. phosphorus (Z_15)

The end