



Chemistry

Name: _____

Section _____

ORGANIZING ELEMENTS WS

Date: _____

Organizing Elements

Part A: Completion. Use this exercise to check your understanding of the concepts and terms introduced in this unit. Each blank can be completed with a term, short phrase, or number.

Chemists used the 1 of elements to sort them into groups. The periodic table organizes the elements into vertical 2 and horizontal 3 in order of increasing 4. The table is constructed so that elements that have similar chemical properties are in the same 5. 6 have a high luster or sheen when cut. Most nonmetals are 7 at room temperature. Elements with properties that are similar to those of metals and nonmetals are called 8. Across the periodic table, the properties of elements become 9 metallic and 10 nonmetallic.

- 1 properties 2 groups 3 periods 4 atomic number
5 group 6 Metals 7 gases 8 metalloids
9 less 10 more

Part B: True-False. Classify each statement as always true (AT), sometimes true (ST), or never true (NT).

- NT 11. In his periodic table, Mendeleev arranged the elements in order of atomic number.
NT 12. There are six periods in a periodic table.
AT 13. Most of the elements on a periodic table are metals.
ST 14. The elements within a period have similar properties.

Part C: Matching. Match each description in Column B to the correct term in Column A.

- | | |
|-------------------------|---|
| <u>b</u> 15. metals | a. a vertical column of elements in the periodic table |
| <u>e</u> 16. periods | b. good conductors of heat and electric current |
| <u>a</u> 17. group | c. poor conductors of heat and electric current |
| <u>c</u> 18. nonmetals | d. have properties similar to both metals and nonmetals |
| <u>d</u> 19. metalloids | e. the horizontal rows of the periodic table |

Part D: Questions and Problems. Answer each question in the space provided.

20. List the elements of Group 15. Tell whether each is a metal, nonmetal, or metalloid.

Nitrogen and phosphorus are nonmetals, arsenic and antimony are metalloids, and bismuth and moscovium (115) are metals.

21. List three properties of metals.

Malleable, ductile, good conductors of heat and electricity, form positive ions, high MP and BP

22. Name two elements with properties similar to those of chlorine.

Fluorine and bromine would have properties most similar to chlorine.