 Name _____ **Date** _____

Per Table Review Study Guide

Part 1: Vocabulary

1. Match each term with its correct definition. (8 points)

_____ alkali metals	a. Class of elements that do not conduct electricity.
_____ nonmetals	b. Metal in group 1 of the periodic table that has one valence electron and is highly reactive.
_____ noble gases	c. Class of elements that are good conductors of electricity.
_____ alkaline earth metals	d. Metal in group 2 of the periodic table that has two valence electrons and is very reactive but less so than an alkali metal.
_____ halogens	e. Metal in groups 3 to 12 of the periodic table that is hard and shiny and less reactive than metals in groups 1 and 2.
_____ metalloids	f. Class of elements that have some properties of metals and some properties of nonmetals.
_____ transition metals	g. Nonmetal in group 17 of the periodic table that has seven valence electrons and is highly reactive.
_____ metals	h. Nonmetal in group 18 of the periodic table that has eight valence electrons (or two in the case of helium) and is unreactive.

2. Match each term with its correct definition. (6 points)

_____ periodic law	a. Column of the periodic table that contains elements with similar properties.
_____ periodic table	b. the pattern of repeating properties displayed by elements in the periodic table
_____ atomic mass unit	c. Row of the periodic table that contains elements ranging from metals on the left to metalloids and then nonmetals on the right.
_____ reactivity	d. Table of elements arranged by increasing atomic number (modern periodic table) or by increasing atomic mass (Mendeleev's periodic table).
_____ period	e. SI unit for the mass of an atom, where 1 amu = the mass of a proton (about 1.7 × 10-24 g).
_____ group	f. ability of matter to combine chemically with other substances

Part 2: HISTORY OF THE PERIODIC TABLE

3. Mendeleev was the first to organize the elements into a periodic table and ordered them by increasing _____ . (1 point)

4. The modern periodic table is organized by increasing _____ . (1 point)

5. From his table, Mendeleev was able to _____ the properties of elements that have not yet been discovered. (1 point)

Part 3: Classifying Elements For each of the following, classify the element as a metal, nonmetal or metalloid.

6. Hydrogen (1 point)
   - ◯ Metal
   - ◯ Nonmetal
   - ◯ Metalloid

7. Sodium (1 point)
   - ◯ Metal
   - ◯ Nonmetal
   - ◯ Metalloid

8. Copper (1 point)
   - ◯ Metal
   - ◯ Nonmetal
   - ◯ Metalloid

9. Silicon (1 point)
   Metal

- ◯
- ◯ Nonmetal
- ◯ Metalloid

10. Chlorine (1 point)
    - ◯ Metal
    - ◯ Nonmetal
    - ◯ Metalloid

11. Chlorine is a ... (1 point)
    - ◯ Metal
    - ◯ Nonmetal
    - ◯ Metalloid

12. Strontium (1 point)
    - ◯ Metal
    - ◯ Nonmetal
    - ◯ Metalloid

13. Germanium is a ... (1 point)
    - ◯ Metal
    - ◯ Nonmetal
    - ◯ Metalloid

14. Argon (1 point)
    - ◯ Metal
    - ◯ Nonmetal
    - ◯ Metalloid

15. Copper is a ... (1 point)
    - ◯ Metal
    - ◯ Nonmetal
    - ◯ Metalloid

16. Mercury (1 point)
    - ◯ Metal
    - ◯ Nonmetal
    - ◯ Metalloid

17. Iodine (1 point)
    - ◯ Metal
    - ◯ Nonmetal
    - ◯ Metalloid

18. Antimony (1 point)
    - ◯ Metal
    - ◯ Nonmetal
    - ◯ Metalloid

19. Francium (1 point)
    - ◯ Metal
    - ◯ Nonmetal
    - ◯ Metalloid

20. The reactivity of metallic elements on the periodic table tends to _____ from left to right across the periodic table (1 point)

21. The pattern of repeating properties from row to row as shown in the periodic table is known as _____ . (1 point)

22. Most of the elements on the periodic table are classified as _____ . (1 point)

23. Elements in the same group have similar _____ . (1 point)

24. From left to right on the periodic table, elements become less _____ in their

properties. (1 point)

25. _____ are the horizontal rows on the periodic table. (1 point)

26. _____ are the vertical columns on the periodic table (1 point)

27. Elements on the periodic table can be classified as metals, nonmetals and _____ . (1 point)

Part 4: Representative Groups

28. Match each group with its correct name. (6 points)

_____ Group 17	a. Groups containing at least one metalloid
_____ Group 2	b. Alkaline Earth Metals
_____ Groups 3-12	c. Halogens
_____ Group 1	d. Noble Gases
_____ Group 18	e. Alkali Metals
_____ Groups 13-16	f. Transition Metals

29. Match the element with the group that it belongs to. (7 points)

_____ Nitrogen	a. Group 13
_____ Cobalt	b. Group 15
_____ Aluminum	c. Transition Metal
_____ Sodium	d. Halogens
_____ Calcium	e. Noble Gases
_____ Iodine	f. Alkali Metals
_____ Argon	g. Alkaline Earth Metals

30. Group _____ are the most reactive metallic elements on the periodic table. (1 point)
- 1 Alkali Metals
- 7 Halogens
- 8 Noble Gases
- 2 Alkaline Earth Metals

31. _____ are the most unreactive elements on the periodic table. (1 point)
- 1 Alkali Metals
- 7 Halogens
- 8 Noble Gases
- 2 Alkaline Earth Metals

32. Noble gases are _____. (1 point)
- stinky, bright and reactive
- colorless, odorless and unreactive
- extremely dangerous
- unreactive, colorless and have a strong scent.

33. _____ is the most reactive element on the periodic table. (1 point)
- Francium
- Lithium
- Astatine
- Hydrogen