Chapter 5 Study Guide (PS)

1. How did Mendeleev arrange the elements in his periodic table?
2. A neutral atom of P has _____ protons and _____ electrons.
3. How are the elements arranged in the modern PT?
4. What does periodically mean? How does it relate to the PT?
5. Did Medeleev know all the atoms when he created his PT?
6. Name 3 elements in group 5.
7. How did Moseley arrange the PT?
8. What happened when Moseley rearranged the PT?
9. A neutral atom of Mg has _____ protons and _____ electrons.
10. State the Periodic Law.
11. How many periods are there in the PT?
12. How many groups are there in the PT?
13. Name 3 elements that are in period 3.
14. Elements in the same (group, period) have similar properties.
15. The columns in the PT are known as _____ or _____.
16. What group and period are the following elements in?
    a. Silicon G_____ P _____
    b. Magnesium G_____ P _____
    c. Copper G_____ P _____
    d. Tin G_____ P _____
    e. Sodium G_____ P _____
17. Why do elements within a group of the periodic table have similar chemical properties?
18. What happens to an atom that gains or loses electrons?
19. What are the three main categories of elements?
20. A neutral atom of Ca has _____ protons and _____ electrons.
21. What is a valence electron and where is it located?
22. How many valence electrons do the following neutral atoms have? (put N/A if you cannot determine the number)
    a. Magnesium _____
    b. Oxygen _____
    c. Sodium _____
    d. Copper _____
    e. Aluminum _____
    f. Neon _____
    g. Boron _____
23. Which of the following pairs have the SAME number of valence electrons?
    a. Be, Mg
    b. C, N
    c. F, N
    d. Na, Rb
24. What number is “GREAT”?
25. Which groups tend to lose electrons and which groups tend to gain them?
26. If an atom gains and electron it becomes _____ charged.

27. Write the ion (with charge) that each atom would produce.
    a. Calcium _____
    b. Nitrogen _____
    c. Sodium _____
    d. Br _____
    e. Phosphorus _____
28. Give an example of 4 metals.
29. Give an example of 4 metalloids.
30. Give an example of 4 nonmetals.
31. What is another name for metalloids?
32. Where on the PT do you find metals, nonmetals, and metalloids?
33. What does each element family have in common?
34. What are the families of metals?
35. What are some of the families of nonmetals?
36. What are semiconductors (metalloids)?
37. Name 3 alkali metals.
38. Name 3 alkaline earth metals.
39. Name 3 propertied of alkali metals.
40. Name 3 properties of alkaline earth metals.
41. How do you store alkali metals?
42. What charge ions do alkali metals produce?
43. What elements are used in fireworks and what colors do they produce?
44. What is calcium used for?
45. Where are the transition metals located on the PT?
46. What elements are in the iron triad?
47. What are the elements in the iron triad used for?
48. What are the coinage metals? What are/were they used for?
49. What is the only liquid (at room temp) metal? What was it used in?
50. Name 3 halogens/
51. Name 3 noble gases.
52. Where are the nonmetals located on the PT?
53. Where are the metalloids located on the PT? (Be specific)
54. What is a cation? Give 3 examples.
55. What is an anion? Give 3 examples.