Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_

**Finals Study Guide: Ch.3 Solids Liquids, and Gases, Ch.4 Elements and the Periodic Table, Ch.5 Atoms and Bonding, CH.6 Chemical Reactions**

Please complete this study guide on a separate sheet of paper! Questions 2-36 must be complete sentences in order to receive extra credit the day of your final (10pts). This study guide is NOT the only thing to help you study for your final. Be sure to review worksheets in your spiral, notes from class, and anything on Ms. Galipeau’s webpage.

GOOD LUCK and HAPPY STUDYING! ☺

1. Define the following terms
2. Matter
3. Physical property
4. Chemical property
5. Physical change
6. Chemical change
7. Atom
8. Element
9. Heterogeneous mixture
10. Homogeneous mixture
11. Compound
12. Fluid
13. Surface tension
14. Viscosity
15. Melting
16. Melting point
17. Freezing
18. Vaporization
19. Evaporation
20. Boiling
21. Condensation
22. Sublimation
23. Electron
24. Nucleus
25. Proton
26. Energy level
27. Neutron
28. Atomic number
29. Mass number
30. Period
31. Group
32. Malleable
33. Ductile
34. Corrosion
35. Alkali metal
36. Alkaline earth metal
37. Transition metal
38. Nonmetal
39. Halogen
40. Inert gas (noble gas)
41. Semi metal
42. Valence electron
43. Electron dot diagram (Lewis dot structure)
44. Bohr’s model
45. Chemical bond
46. Ion
47. Ionic bond
48. Chemical formula
49. Subscript
50. Covalent bond
51. Reactant
52. Product
53. What is the difference between a physical and chemical property? Identify 3 physical properties and 3 chemical properties of water.
54. How are elements and compounds similar? Different?
55. How is a physical change different from a chemical change? Provide an example of a physical change and a chemical change.
56. In the following chemical equation, identify the products, reactants, coefficients, and subscripts.
57. Why is the boiling of water considered a physical change?
58. How do crystalline and amorphous solids differ?
59. What properties of a liquid causes water to form droplets?
60. Describe the motion of particles in a solid, liquid, and gas.
61. Why are both liquids and gases called fluids?
62. What happens when you go from a solid to a liquid? Liquid to gas? Gas to liquid? Liquid to solid? Solid to gas?
63. Describe Bohr’s model of the atom. What specific information did Bohr contribute to scientist’s understanding of the atom?
64. Draw a Bohr’s model of the following elements: sodium (Na), Carbon (C), Silicon (Si).
65. What are the 3 main particles in the modern model of an atom?
66. In what order did Mendeleev arrange the elements in his periodic table?
67. What information is listed in an element’s square in the periodic table?
68. What are the alkali metals located in the periodic table?
69. The atomic mass of iron is 55.847 amu. Why isn’t this value a whole number?
70. Using the periodic table, predict which element- potassium, iron, or aluminum- is most reactive. Explain.
71. Use the periodic table to name two elements that have properties similar to those of chlorine (Cl).
72. Use the periodic table to find the atomic number and atomic mass of neon (Ne).
73. What information does the electron dot diagram (Lewis dot structure) show?
74. Draw a Lewis structure for the following atoms: Rubidium (Rb), Boron (B), Iodine (I).
75. How are the atoms of the elements in group 1 similar?
76. What role do valence electrons play in the formation of compound from elements?
77. Explain the reactivity of inert gases (noble gases) in terms of valence electrons.
78. How many valence electrons do each group number have (not including transition metals)?
79. What is an ion?
80. Contrast sodium and chlorine ions, including how they form. Write the symbol for each ion, the charge and their ionic compound name and formula.
81. Write the formula for calcium chloride explain how you determined this formula.
82. Compare an ionic and covalent bond.
83. Draw a Lewis dot structure of the ionic bond of potassium and bromine.
84. What do the formulas, arrow, and plus signs in a chemical reaction tell you?
85. Which side of a chemical reaction equation is the product? Reactant?
86. What does the coefficient and subscript tell you in a chemical formula?
87. Balance:

\_\_Na + \_\_MgF2 🡪\_\_NaF + \_\_Mg



\_\_Mg + \_\_HCl 🡪\_\_MgCl2 +\_\_ H2

1. Label the parts below:

