**Honors Chemistry Midterm Review, Part 2**

1. Which of these is an intensive property of a squirrel?
2. It is warm
3. It is 30 cm long
4. It weighs 1.2 kg
5. It is 50 cm tall when it stands up and demands food.
6. When I heated a solid material, it started to smoke. This indicates a \_\_\_\_\_\_\_\_\_ change took place.
7. Physical
8. Chemical
9. Intensive
10. Extensive
11. Which of these is an example of the law of conservation of mass:
12. When I hit my son with a water balloon, the weight of my wet son was the same as the weight of my dry son plus the weight of the water in the balloon.
13. When I rear ended somebody else’s car with mine, the original weight of my car was equal to the weight of my crashed car and the bumper that fell from it.
14. When I washed my cat, the weight of the water that was originally in the tub was equal to the weight of the final weight of the water in the tub plus the weight of the water that my cat had splashed around.
15. All of these are examples of the law of conservation of mass.
16. John Dalton had an atomic theory with five major points. Which of these is not a characteristic of his model of the atom?
17. Atoms are small
18. Atoms contain electrons
19. Atoms obey the law of conservation of mass
20. Atoms cannot be destroyed
21. Which of these is not true of the plum pudding model of the atom?
22. Atoms contain electrons
23. Atoms contain orbitals
24. Electrons are embedded in a ball of positive charge.
25. More than one of the above is not true of the plum pudding model of the atom.
26. Which of the following is true of the alkaline earth metals?
27. They have high melting and boiling points
28. They are hard and brittle
29. They are extremely reactive
30. They form ions with a +1 charge
31. What family of the periodic table contains elements that would be best suited to kill bacteria at a water treatment plant?
32. Halogens
33. Alkali metals
34. Alkaline earth metals
35. Noble gases
36. Which of the following best describes ionization energy?
37. It’s the amount of energy required to pull an electron from a neighboring atom.
38. It’s the amount of energy required to conduct electricity.
39. It’s the amount of energy required to remove an electron from an atom.
40. Ionization energy is the same thing as electronegativity.
41. Which of the following elements has the smallest atomic radius?
42. Lithium
43. Copper
44. Fluorine
45. Neon
46. Which of the following elements has the largest electronegativity?
47. Hydrogen
48. Helium
49. Iodine
50. Francium
51. Which of the following elements has four valence electrons?
52. Copper
53. Silicon
54. Gallium
55. Sulfur
56. Why doesn’t hydrogen have similar properties to the other elements in group 1?
57. It is a nonmetal
58. It is a metal
59. It is extremely electronegative
60. It is smaller than the other elements in group 1
61. Another term for s- and p-block elements is:
62. Alkaline earth metals
63. Main block elements
64. Lanthanides
65. Transition metals
66. If a neutral atom loses an electron, which of the following is formed?
67. Cation
68. Anion
69. Polyatomic ion
70. Neutral atom
71. Why can’t two metals react with one another to form an ionic compound?
72. Neither of them is electronegative, so neither will transfer electrons to the other.
73. They have similar electronegativities, so neither will transfer electrons to the other.
74. Metals are highly conductive, so their electrons prefer to stay on their original atom.
75. More than one of the above is correct.
76. Which of the following is not a general property of ionic compounds?
77. They have high melting and boiling points
78. They are hard and brittle
79. They form crystals
80. They are flammable.
81. Why are ionic compounds hard?
82. Ionic compounds form crystals where the ions are held tightly to one another.
83. Ionic compounds don’t form crystals, so their amorphous structure makes them inflexible.
84. Ionic compounds have high melting points.
85. Ionic compounds have low boiling points.
86. Generally speaking, why does fluorine form so many ionic compounds?
87. It is a nonmetal
88. It has lots of valence electrons
89. It is extremely electronegative so it’s good at pulling electrons off other atoms.
90. It wants to be like a noble gas, causing it to readily lose electrons.
91. Which of the following is a good definition of a family in the periodic table?
92. It is a column in the periodic table
93. It is a row in the periodic table
94. It contains nonmetals and metalloids
95. It contains only metals.
96. Which of the following is a poor definition of the octet rule?
97. Elements want to gain or lose electrons to get the same electron configurations the nearest noble gas.
98. Elements will become cations if they need to gain electrons to be like the nearest noble gas, and become anions if they need to lose electrons to be like the nearest noble gas.
99. All elements want to be like the nearest noble gas.
100. Because noble gas electron configurations are extremely stable, all elements want to get similar electron configurations to them.
101. Which of the following is a good definition of the shielding effect?
102. Outer electrons push inner electrons toward the nucleus
103. Outer electrons pull on inner electrons toward the outer orbitals.
104. Inner electrons push outer electrons away from the nucleus
105. Inner electrons pull outer electrons toward the nucleus.
106. Which of the following is a good explanation for why beryllium is less reactive than lithium?
107. It needs to gain more electrons to be like the nearest noble gas.
108. It needs to lose more electrons to be like the nearest noble gas.
109. It is a larger atom, making it harder to lose electrons.
110. It is a smaller atom, making it easier to lose electrons.
111. Which of the following is most likely an ionic compound?
112. Sodium acetate
113. Nitrogen
114. Copper (II) sulfate
115. More than one of these is an ionic compound.
116. Why don’t salts conduct electricity unless they are melted or dissolved in water?
117. Moving ions result in electrical conductivity.
118. Moving ions cause conductivity to increasingly insulate going across a period.
119. Moving ions cause new crystal lattices to form when compounds are melted or dissolved in water.
120. Ions remain stationary, causing charged ions to conduct electricity.
121. Why do ionic compounds have high melting and boiling points?
122. Ionic compounds contain metals, which have high melting and boiling points.
123. Ionic compounds are brittle, causing them to shatter when heated.
124. Ionic compounds conduct electricity, causing the ions to stick together in higher temperatures.
125. The interaction between cations and anions is very strong, requiring a great deal of energy to break.
126. What is the charge of a phosphide ion?
127. +3
128. -3
129. +1
130. -1
131. Why are ionic compounds usually formed when a metal bonds with a nonmetal?
132. Metals have high electronegativity, making it easy for them to transfer electrons to nonmetals.
133. Metals have low electronegativity, making it easy for them to transfer electrons to nonmetals.
134. Nonmetals have high electronegativity, making it easy for them to transfer electrons to nonmetals.
135. Nonmetals have low electronegativity, making it easy for them to transfer electrons to nonmetals.
136. What is the difference between a copper(I) and copper(II) ion?
137. Compounds containing copper(I) are green and compounds containing copper(II) are blue.
138. Copper(I) has a higher ionization energy
139. Copper(II) can be used to form ionic compounds and copper(I) cannot.
140. Copper(II) has a higher positive charge than copper(I)
141. Why do ionic compounds have high melting and boiling points?
142. The combination of an anion and cation forms a very stable compound.
143. Anions are always more stable than cations.
144. Because ionic compounds are also hard and brittle.
145. Electronegativities increase as you move across a period.
146. Why do metals usually form cations in ionic compounds?
147. Metals have low electronegativities
148. Metals lose electrons when placed into contact with electronegative elements.
149. Nonmetals have much higher electronegativities than metals.
150. All of the above.