Name: _____ Class: _____ Date: _____ ID: A

Matter & Chemistry Review 2

Matching

Match the following changes with the correct action.

a. physical
b. chemical

____ 1. tearing paper
____ 2. wax melting
____ 3. wood burning
____ 4. peeling a potato
____ 5. iron rusting
____ 6. sanding wood
____ 7. milk souring
____ 8. silver tarnishing

Match each item with the correct term below.

a. reactant
b. catalyst
c. chemical reaction
d. endothermic reaction
e. exothermic reaction
f. inhibitor
g. product
h. rate of reaction

____ 9. process that produces chemical change
____ 10. substance that slows down a chemical reaction
____ 11. reaction in which heat energy is absorbed
____ 12. substance that exists before a chemical reaction begins
____ 13. substance formed by a chemical reaction
____ 14. substance that speeds up a chemical reaction
____ 15. reaction in which heat energy is released
____ 16. a measure of how fast a reaction occurs

Match each term with the correct definition.

a. acids
b. aqueous
c. bases
d. concentrated
e. concentration
f. dilute
g. indicators
h. mixtures
i. neutralization
j. pH
k. saturated
l. solubility
m. solute
n. solution
o. solvent

____ 17. the term used to describe how much solute dissolves in a given amount of solvent
____ 18. describes a solution that contains a large amount of solute per given amount of solvent
____ 19. substance that does the dissolving
____ 20. interaction that occurs between acids and bases in which the properties of each are canceled out by the other
____ 21. substances that produce hydroxide ions when they dissolve in water

____ 22. solutions in which water is the solvent
____ 23. a measure of how acidic or basic solutions are
____ 24. another name for a homogeneous mixture
____ 25. tells you how much solute is present compared to the amount of solvent
____ 26. compounds that react with acidic or basic solutions to produce certain colors
____ 27. describe a solution that contains all of the solute that it can hold under a given set of conditions
____ 28. substance that dissolves into a solution
____ 29. combinations of substances that can be separated by physical processes
____ 30. contains a relatively small amount of solute per given amount of solvent
____ 31. contain hydrogen and produce hydronium ions when they dissolve in water

Completion
Complete each sentence or statement.

32. An element is made up of only one kind of _____ (isotope, atom, plastic).
33. The periodic table lists _____ (common molecules, compounds, elements).
34. Atoms of the same element always have the same number of _____ (neutrons, electrons, protons).
35. The elements in a _____ (mixture, solution, compound) are always combined in the same proportion by mass.
36. An example of a homogenous mixture is _____ (vegetable soup, air, granite rock).
37. Boiling is one form of the state change called _____.
38. Puddles drying up in the Sun are examples of _____.
39. Steam changing to liquid water is an example of _____.
40. As a gas condenses to a liquid, it _____ the heat that was required to vaporize the liquid.
41. When a substance is _____, it gains thermal energy.

Unscramble the letters to form the correct word for each definition.

42. *hacclime preptory*: allows a substance to change to a new substance _____
43. *malceich hagcen*: original material is transformed into a new material _____
44. *aeioocnnrstv fo sams*: total mass is the same before and after a physical or chemical change _____
45. *chyplais gnache*: any alteration in size, shape, or form of matter _____
46. *tendisy*: relates an object's mass to the amount of space it takes up _____
47. *saphicly toppyrer*: most of these characteristics can be observed with the senses _____
48. *liigbon tnpoi*: temperature at which a liquid turns into a gas _____
49. *mtlgnei iotpn*: temperature at which a solid turns into a liquid _____

50. *ttsae*: solid, liquid or gas _____
51. Shape, color, and texture are examples of _____.
52. You can tell a(n) _____ has occurred when energy is taken in or given off.
53. The rusting of metal is an example of a(n) _____ change.
54. A change of _____ is an example of a physical change.
55. Milk and gasoline are examples of the _____ of matter.
56. The total _____ of the matter is the same before and after a physical or chemical change. This is the _____.

Unscramble the letters to form the correct word for each definition.

57. *rogup:* contains elements with similar properties _____
58. *dopier:* row of elements in the periodic table _____

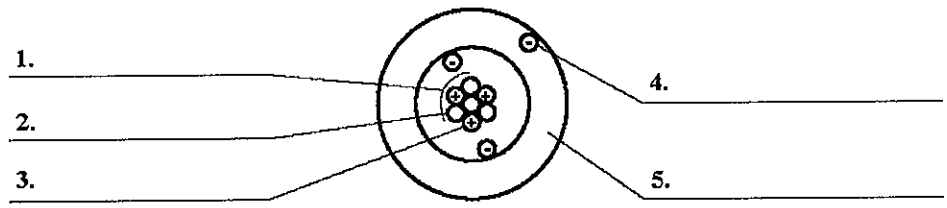
Choose the best of the answers in parentheses.

59. In this periodic table, Mendeleev arranged the elements in order of increasing _____ (atomic number, atomic diameter, mass number).
60. The symbol for the element mercury is _____ (Mg, Hg, Ga).
61. The element _____ (neon, sodium, bromine) is a gas at room temperature.
62. At the center of an atom is a(n) _____ that contains one or more positively charged _____ and neutral _____.
63. Electrons that are closest to the atom's nucleus are in the _____ energy level.

Short Answer

64. Study the following diagram. Then label the atom using the correct terms from the list.

electron **electron cloud** **neutron** **nucleus** **proton**



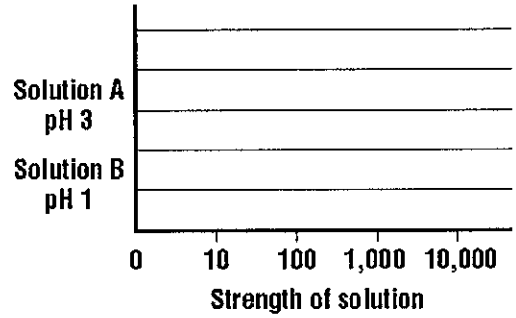
65. Fill in the missing numbers in the table.

Element	Number of protons	Number of neutrons	Number of electrons	Atomic number	Mass number
1. A	3	4	3		7
2. B	2		2	2	4
3. C	11	12		11	
4. D		6	6		12
5. E		18			35

Fill in the graphs below that show the relative strength of different acids and bases.

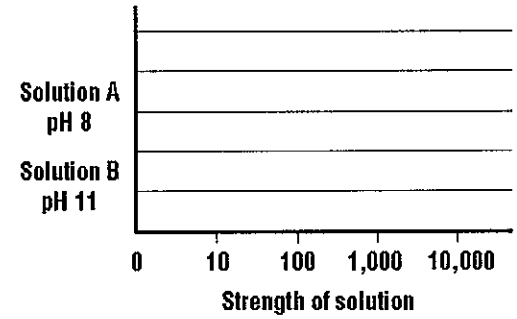
66.

Solution A has a pH of 3, and Solution B has a pH of 1. Draw in the graph the relative strength of Solution B compared to A. Is Solution B more acidic or basic than Solution A?



67.

Solution A has a pH of 8, and Solution B has a pH of 11. Draw in the graph the relative value of Solution B compared to A. Is Solution B more acidic or basic than Solution A?



Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

____ 68. Which of the following is not a change from liquid to gas states?
a. vaporization
b. boiling
c. condensation
d. evaporation

____ 69. A gas ____ fills its container.
a. partially
b. most of the time
c. sometimes
d. completely

____ 70. The ____ remains constant when a liquid reaches its boiling point.
a. temperature
b. sound
c. odor
d. color

____ 71. At the center of an atom is a nucleus containing ____.
a. molecules
b. electrons
c. neutrons and electrons
d. protons and neutrons

____ 72. Raisins in cereal is an example of a ____.
a. homogeneous mixture
b. heterogeneous mixture
c. solvent
d. salt

____ 73. Water is said to be the universal solvent because it ____.
a. is found everywhere in the universe
b. covers most of the planet
c. can dissolve so many different solutes
d. is a nonpolar molecule

____ 74. Orange juice with just a hint of orange flavor is ____ compared to juice with a strong orange taste.
a. basic
b. dilute
c. rich
d. concentrated

____ 75. ____ make food taste bitter.
a. Metals
b. Bases
c. Soaps
d. Acids

____ 76. ____ make food taste sour.
a. Metals
b. Bases
c. Soaps
d. Acids

____ 77. Which of the following is false about acidic solutions?
a. They conduct electricity.
b. They have more hydronium ions than hydroxide ions.
c. They can corrode some metals.
d. They have a pH over 7.

____ 78. ____ always contain the same amount of the different substances that make them up.
a. Compounds
b. Homogeneous mixtures
c. Solutions
d. Heterogeneous mixtures