

Student Name \_\_\_\_\_

### Part A

Multiple choice. Choose the **best** answer.

- 1) Which property of matter doesn't change? Its 1) weight 2) volume 3) mass 4) shape
  
- 2) When water forms ice there is no change in  
1) form 2) composition 3) appearance 4) energy
  
- 3) Which of the following is the smallest group of elements?  
1) Metals 2) Nonmetals 3) Metalloids 4) Omnimetals
  
- 4) Metals can be pulled to form wires. This property is called  
1) malleability 2) ductility 3) flexibility 4) conductivity
  
- 5) Which of the following has a variable (indefinite) composition?  
1) sugar 2) water 3) sodium chloride 4) soda
  
- 6) Metals are usually  
1) brittle 2) good insulators 3) dull 4) silver-gray colored
  
- 7) **Hg** is the symbol for 1) hydrogen 2) mercury 3) hydrarium 4) hafnium
  
- 8) The symbol for **lead** is 1) Ld 2) Le 3) Pb 4) Pd
  
- 9) When water is electrolyzed using the Hoffmann Apparatus, the gas collected in greatest quantity is  
1) hydrogen 2) oxygen 3) water vapor 4) carbon dioxide.
  
- 10) The process that can be used to separate water from a solution is called  
1) chromatography 2) distillation 3) filtration 4) electrolysis.

---

### Part B

Indicate whether the following is a physical change **(1)**, chemical change **(2)**, neither **(3)**, or both **(4)**.

- 1) Crystals are crushed in a mortar.
- 12) Zinc fizzes in acid.
- 13) Salt dissolves in water.
- 14) Universal indicator turns blue in base.

Identify the following as a physical property **(1)**, chemical property **(2)**, neither **(3)**, or both **(4)**.

15) Ethanol is flammable.

16) Zinc melts at 420 °C.

17) Oxygen is a gas at room temperature.

18) Copper sulfate reacts with lead nitrate to produce a white solid.

19) Mixtures are made by a \_\_\_\_\_ change and are broken down by a \_\_\_\_\_ change.

1) chemical \ physical

3) chemical \ chemical

2) physical \ physical

4) physical \ chemical

20) Which substance can be decomposed by a chemical change?

1) Iron    2) sodium chloride    3) chromium    4) calcium

21) Many companies manufacture iced tea mix. Which of the following is false?

1) Its composition is the same in every sample.

2) Some samples may contain more sugar than others.

3) Some samples may contain more salt than others.

4) There is no set formula for iced tea.

22) 100 grams of a liquid is filtered leaving a few grams of solid trapped in the paper. The original liquid was a

1) heterogeneous compound

3) homogeneous compound

2) heterogeneous mixture

4) homogeneous mixture

23) Air is an example of 1) a pure substance 2) a gaseous solution 3) a heterogeneous mixture 4) a compound

24) Which of the following will completely separate salt from water?

1) Allow the salt to settle to the bottom of the beaker.

2) Trap the dissolved salt with filter paper.

3) Boil off the water.

4) Use a magnet to grab the dissolved salt.

25) Which of the following is not an example of matter?

1) air

2) light

3) wind

4) water