TEST NAME: **1st 6 weeks 8th grade Science Benchmark 2014-2015 (COPY)**
TEST ID: **248724**
GRADE: **08**
SUBJECT: **Life and Physical Sciences**
TEST CATEGORY: **District Benchmark**

Student: _____

Class: _____

Date: _____

Instructions

Read each item carefully and select the best answer choice. Read all of the information and answer choices. Then choose the best answer.

1. Which ***best*** compares homogeneous mixtures to heterogeneous mixtures?

   A. Homogeneous mixtures have multiple phases, while heterogeneous mixtures have only one phase.

   B. Homogeneous mixtures will separate upon standing, while heterogeneous mixtures will not separate.

   C. Heterogeneous mixtures may have undissolved particles, while homogeneous mixtures are true solutions.

   D. Heterogeneous mixtures will allow light to pass through, while homogeneous mixtures will reflect light as it passes through.

2. Which is an example of a chemical change?

   A. boiling water

   B. burning wood

   C. freezing water

   D. chopping wood

3. Which ***best*** explains why hydrogen (H), a nonmetal, is located on the left side of the periodic table with the metals?

   A. Hydrogen is located with the metals to make the periodic table more symmetrical.

   B. The chemical reactivity of hydrogen is similar to the chemical reactivity of the metals in Group 1.

   C. The physical properties of hydrogen are similar to the physical properties of the metals in Group 1.

   D. Hydrogen is the simplest element with an atomic number of one and is located in the first position on the periodic table.

4. Which has only one type of atom throughout?

A. compound

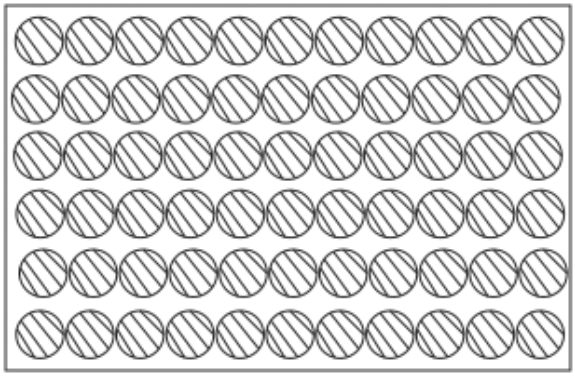
B. element

C. mixture

D. molecule

5. Copper is a solid at room temperature. Which ***best*** represents the arrangement of atoms in a piece of copper metal at room temperature?

A.



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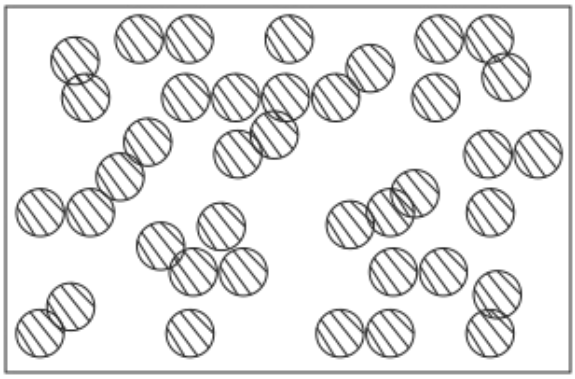

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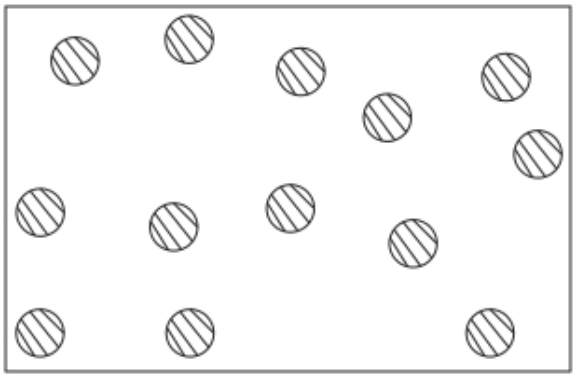

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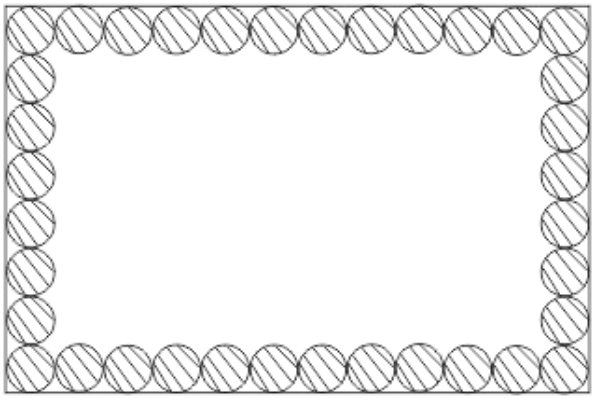


6. Which ***best*** supports the law of conservation of mass?

   A. There is a different number of atoms on each side of a chemical equation.

   B. There is a different number of compounds on each side of a chemical equation.

   C. There are the same number of compounds on each side of a chemical equation.

   D. There are the same number of atoms of each element on each side of a chemical equation.

7. A student finds that an unknown element reacts with elements from Group 2 (IIA). To which group does the unknown element ***most likely*** belong?

   A. Group 1 (IA)

   B. Group 3 (IIIB)

   C. Group 16 (VIA)

   D. Group 18 (VIIIA)

8. After a scientist mixes two clear solutions, he is unable to detect a temperature change. However, he knows a chemical change occurred. Which evidence ***best*** proves a chemical change did indeed occur?

   A. There was an increase in the mass of the new solution produced.

   B. A solid precipitate was produced which settled out of the solution.

   C. There was a decrease in the volume of the new solution produced.

   D. Two distinct layers were observed when the two original solutions were combined.

9. How does the mass of the reactants entering a chemical reaction compare with the mass of the products after the reaction?

   A. Mass is neither lost nor gained.

   B. Mass can be either lost or gained.

   C. Mass is lost as energy is released.

10. Water (H_2O) and hydrogen peroxide (H_2O_2) are both clear liquids. Which description ***most accurately*** describes the relationship between water and hydrogen peroxide?

   A. They are two different elements.

   B. They are two different compounds that include different elements.

   C. They are two different compounds that include the same elements in different arrangements.

   D. They are two different mixtures that include the same elements in different arrangements.

11. Which physical property was ***most*** important in determining the arrangement of the modern periodic table?

   A. atomic number

   B. atomic weight

   C. mass number

12. When heated, copper metal will become a liquid at 1,084°C. Which property of the metal has been described?

A. density

B. reactivity

C. specific heat

D. melting point

13. Why do elements in group 18 rarely react with other elements?

A. They have a full period.

B. They have a half-full shell.

C. They have a full outer shell.

14. A scientist combines two atoms of hydrogen and three atoms of oxygen resulting in a chemical reaction. According to the Law of Conservation of Mass, how many atoms of oxygen must be in the product?

A. 2

B. 3

C. 5

15. One hundred students performed the same exact experiment testing the law of conservation of mass. All of the students had different results. Which ***best*** explains this?

A. flawed hypothesis

B. identical lab procedures

C. inaccurate measurement procedures

D. contamination of products and reactants

16. Which group on the Periodic Table has a reactivity that increases as you go down the table?

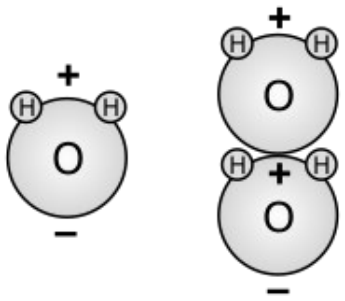
A. noble gases

B. alkali metals

C. metals and non-metals

17. Which represents an element?

A.



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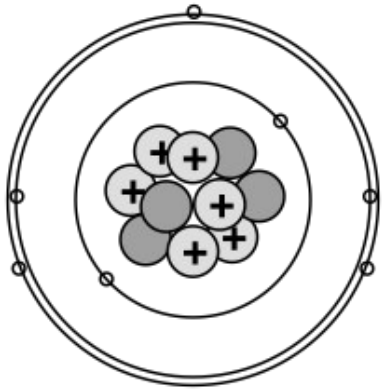

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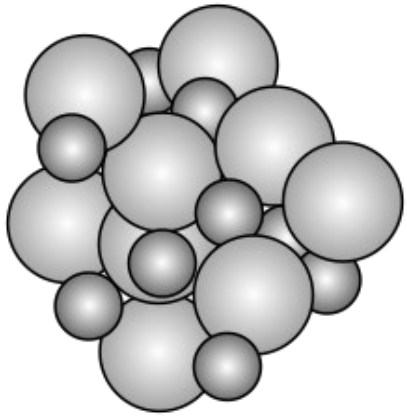

18. Which describes a chemical change taking place?

A. Water boils when heat is added.

B. Water vapor surrounds a melting ice cube.

C. Color changes when food coloring is added to water.

D. Gas bubbles form when a substance is put into water.

19. For a chemical reaction, the total mass of the reactants is 40 g. There are two products and one of them had a mass of 10 g. What is the mass of the other product?

A. 10 g

B. 30 g

C. 40 g

20. Properties of four elements were determined and the location of each element on the periodic table of elements was identified as shown in the chart below.

Element	Chemically Reactive	Conducts Electricity	Location on Periodic Table
W	yes	yes	left side
X	no	no	right side
Y	yes	no	right side
Z	yes	no	left side

Which is ***most likely*** the element chlorine (Cl)?

A. Element W

B. Element X

C. Element Y

D. Element Z