CISD Grade 6 Science Unit 04

GO ON

1 Water has the chemical formula H_2O.

What is the ratio of hydrogen atoms to oxygen atoms?

A There are two hydrogen atoms for every one oxygen atom.

B There is an equal number of hydrogen and oxygen.

C There is one hydrogen atom for every two oxygen atoms.

D There are two hydrogen atoms for every four oxygen atoms.

2 Glucose is a sugar that humans need to survive. It forms as a result of plants undergoing photosynthesis. The chemical formula for glucose is $C_6H_{12}O_6$.

How many different elements are in glucose?

F 2

G 3

H 6

J 24

3 Which of the following is a compound?

A Co

B CO

C Fe

D H

4 A new compound has just been made. Its formula is:

COFeHNCoBNa

How many different elements make up this compound?

F 8

G 9

H 10

J 11

5 Marie had a beaker with a small amount of baking soda. She added a few drops of pickle juice to the baking soda and observed fizzing and bubbling. Based on her observation, which of these can Marie determine about the new substance formed by mixing the baking soda and pickle juice?

A A chemical reaction produced a solid.

B A chemical reaction produced a gas.

C No chemical reaction took place.

D Only a physical change happened.

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6 During a science class experiment, a teacher places a small amount of sugar in a spoon and heats it over a candle. Which of the following would be the BEST evidence that a change in the chemical properties of the sugar has taken place?

F The sugar gets hotter.

G The sugar turns black.

H The sugar gets larger.

J The sugar turns into a liquid.

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A	B	C	D
silver spoon tarnishes	ice melting	dry ice goes from a solid to a gas form of CO_2	mixing flour, salt, and sugar
leaves changing colors in the fall	sugar cube dissolving in water	your breath condensing on a cold window pane	sanding wood
water separating into hydrogen and oxygen	paper tearing	glass breaking	grinding something into a powder

7 Which column includes only chemical changes?

A A

B B

C C

D D

8 Two liquids are mixed together. Which of the following does NOT identify the formation of a new substance being formed?

F A gas is produced.

G The temperature changes.

H One liquid disappears into the other.

J A solid is formed.

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9 Sodium is a silver, solid metal, and chlorine is a yellow gas. Both are elements and can be found on the periodic table. When they are mixed together, they give off a lot of heat, and a new white substance is formed.

What is occurring?

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Use the following information to answer the next three questions.

Ali was given two materials, a liquid and a solid, which when mixed together produced a gas. She was asked to design an experiment to test how much gas was produced when the two materials were combined.

10 Ali designed an experiment to measure the amount of gas produced during the chemical reaction. The steps of the experiment are listed in the box, but are not in the correct order.

1	Tie off the filled balloon and find the mass of the balloon.
2	Measure 100 mL of the liquid.
3	Place balloon over the neck of the bottle.
4	Add 10g of the solid to the bottle.
5	Pour the liquid into the bottle.
6	Find the mass of the empty balloon.

What is the correct order of the lab procedure?

F 6, 1, 4, 3, 2, 5

G 6, 2, 5, 4, 3, 1

H 6, 5, 2, 3, 4, 1

J 6, 4, 2, 3, 1, 5

11 What reusable measurement equipment does Ali need to conduct her investigation?

A graduated cylinder, spring scale

B beaker, spring scale

C paper cup, triple beam balance

D graduated cylinder, triple beam balance

12 What safety equipment is most important for Ali to use when conducting her investigation?

F latex gloves

G safety goggles

H beaker tongs

J fire extinguisher

BE SURE YOU HAVE RECORDED ALL OF YOUR ANSWERS ON YOUR ANSWER DOCUMENT

STOP