

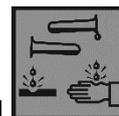
Part one

Answer by circling the letter that is in front of the given answers. Writing with pencil, circling more than one answer or crossing out the answer will result in 0 points. Every correct answer is worth 2 points.

- Evaporation is:
 - change from solid to liquid
 - change from liquid to solid
 - change from liquid to gas
 - change from solid to gas
 - the same as boiling
- The process of diffusion of gasses is:
 - spontaneous
 - not spontaneous
 - fast
 - slow
 - chemical
- Material that is malleable and conducts electricity is most likely made of:
 - wood
 - ice
 - metal
 - motor oil
 - glass
- Which element list contains only metals?
 - chlorine, carbon, copper
 - lithium, chromium, copper
 - iodine, iron, sodium
 - phosphorus, carbon, sulfur
 - hydrogen, oxygen, nitrogen
- Bronze is an alloy made of:
 - copper and aluminium
 - copper and zinc
 - tin and lead
 - tin and copper
 - zinc and tin
- The symbol for the element copper is:
 - Co
 - Cu
 - Cl
 - Ca
 - Ba
- The simple substances are composed of:
 - one atom
 - one molecule
 - one formula unit
 - one type of atoms
 - one type of molecules
- The red coloring of the flame is observed during the heating of the compounds of:
 - copper
 - barium
 - sodium
 - potassium
 - lithium
- CaSO_4 is the chemical formula of:
 - potassium sulfide
 - potassium sulfate
 - calcium sulfide
 - calcium sulfate
 - calcium sulfuride
- Using filtration, it is **not possible** to separate the components in the mixture of water and:
 - sand
 - iron nails
 - flour
 - sulfur
 - sugar
- Which of the following changes is chemical?
 - evaporation of water
 - boiling of water
 - freezing of water
 - decomposition of water
 - sublimation of water
- The general equation for one reaction is $\text{A} + \text{B} \longrightarrow \text{C}$. What is the mass of product formed if 12 g of **A** completely react with 9 g of **B**?
 - 12 g
 - 9 g
 - 21 g
 - 108 g
 - There is no sufficient data for such determination

13. Which of the following text equations corresponds to reaction for obtaining salt?

- A. magnesium + chlorine \longrightarrow magnesium chloride
- B. magnesium + oxygen \longrightarrow magnesium oxide
- C. hydrogen + chlorine \longrightarrow hydrogen chloride
- D. magnesium chloride \longrightarrow magnesium + chlorine
- E. magnesium + steam \longrightarrow magnesium oxide + hydrogen



14. The symbol represents:

- A. toxic substance
- B. irritating substance
- C. corrosive substance
- D. disinfection agent
- E. oxidizing agent

15. The universal indicator in solution of hydrochloric acid is colored _____, and the litmus _____:

- A. blue, red
- B. blue, blue
- C. red, blue
- D. red, red
- E. green, violet

Part two

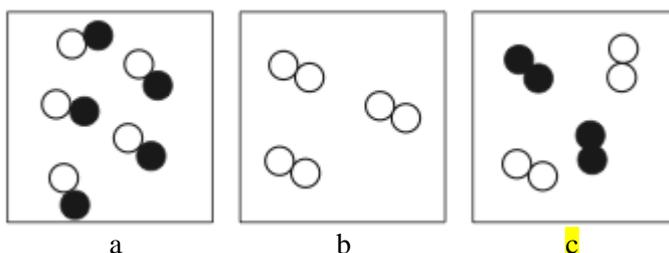
Answer according to the given conditions in the question. Writing with pencil or crossing out the answer will result in 0 points.

1. Circle YES or NO depending whether the statement is correct. (5 points)

- | | | |
|---|-----|----|
| A. Some physical properties of the substances can be registered with naked eye. | YES | NO |
| B. All of the chemical properties of substances can be observed by naked eye. | YES | NO |
| C. Distilled water is miscible with all liquids. | YES | NO |
| D. In nature there are more metals than nonmetals. | YES | NO |
| E. All of the known simple substances are at 0 °C. | YES | NO |

2. Answer the given questions A—C. (4 points)

A. Which picture represents particles of a mixture? Circle the letter under the corresponding picture.

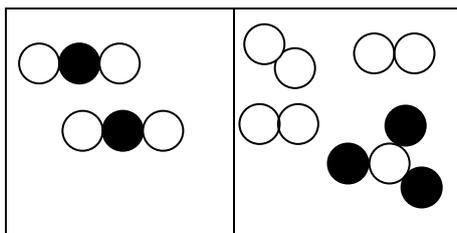


B. Explain your answer of question A.

a – pure substance (compound), b – pure substance (elementary substance), c – different substances

C. In the squares below, using the particle diagrams and using circle for labeling one atom make a drawing of:

- Two triatomic molecules of a compound
- Three diatomic molecules composed of one type of atoms and one tetraatomic molecule composed of different type of atoms
- C - to other correct answer can be assigned full credit!



3. The hydrogen sulfide is composed of the elements: _____ (chemical name), with a chemical symbol of _____ and _____ (chemical name), with a chemical symbol of _____. Symbols/formulae of the simple substances which are made of these elements are: _____ and _____. (3 points)

Hydrogen, H, sulfur, S, H₂, S₈

4. Name the following compounds which are represented by chemical formulae: (5 points)
- A. K₂CO₃ Potassium carbonate
 B. Mg(OH)₂ Magnesium hydroxide
 C. NO₂ Nitrogen dioxide
 D. Cl₂O₇ Dichlorine heptaoxide
 E. CuCl₂ Copper chloride
5. Fill the following table in such a way that you indicate the color of the universal indicator in each of the solutions. (3 points)

Solution	Color
Baking soda	Blue
Sulfuric acid	Red
Lemon juice	Orange-red
Distilled water	Green
Coca cola	портокалова
Brine (salt in water)	green