04.09.21

Ch-4 Elements, Compounds, Symbols and Formulae

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WORKSHEET

Read the following information on the classification of matter.

1. Fill in the blanks where necessary.

Elements:

- An element is a pure substance made of only one type of atoms.
- An element has the same composition throughout, which is called homogeneous.
- An element cannot be separated into simpler materials by physical means.
- Over 100 existing elements are listed and classified on the periodic table.

Compounds:

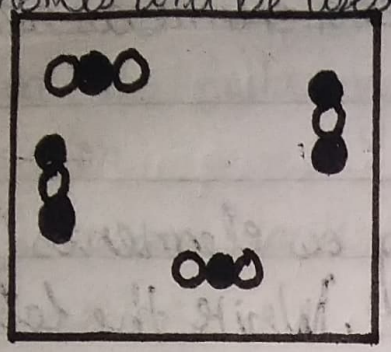
- Compounds are pure substances made of more than one type of molecules and are chemically combined
- A compound has the same composition throughout, which is called homogeneous
- Compounds cannot be separated into simpler materials by physical means. Separating a compound requires a chemical reaction.
- The properties of a compound are usually different than the properties of the elements it contains.

~~Separating a Compound requires a chemical reaction.~~
~~- The properties~~

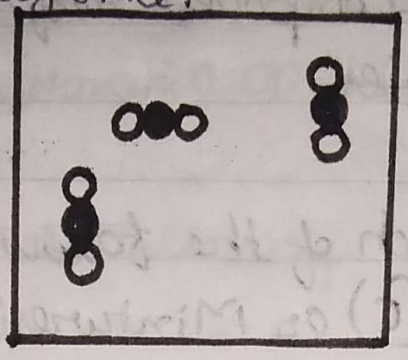
2. Classify each of the following as elements (E), Compounds (C) or Mixtures (M). Write the letter X if the example is not matter.

~~Element~~	~~Compound~~	~~Mixture~~
Diamond (C) E	Sulfuric Acid (H_2SO_4) C	
Sugar ($C_6H_{12}O_6$) C	Bismuth (Bi) E	
Air M	Alcohol (CH_3OH) C	
Krypton (K) E	Salt (NaCl) C	
Water (H_2O) C	Bronze M	
Ammonia (NH_3) C	Baking Soda ($NaHCO_3$) C	
Wood M	Pop Corn M	
Dry Ice (CO_2) C	Gold (Au) E	
Iron (Fe) E	Concrete M	
Electricity X		
Milk M		
Gasoline M		
Uranium (U) E		
Pail of Garbage M		
Energy X		
Ink M		
Titanium (Ti) E		

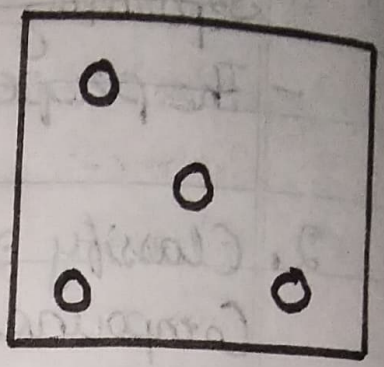
3. Match each diagram with its correct description. Diagrams choices will be used only once.



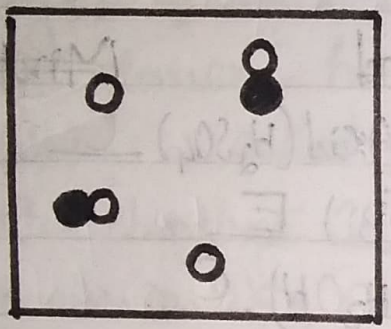
A



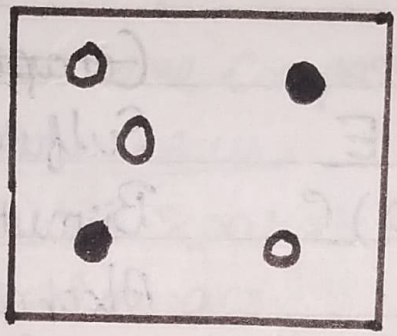
B



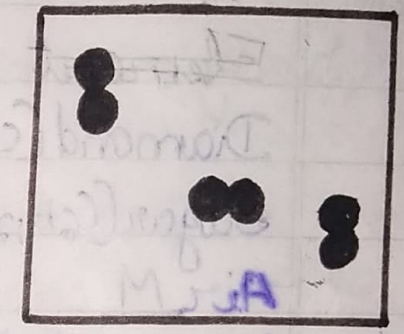
C



D



E



F

Ans-

C 1. Pure element - only one type of atom present

E 2. Mixture of two elements - two types of uncombined atoms present.

B 3. Pure compund - Only one type of compound present.

A 4. Mixture of two compounds - two types of compounds present.

5. Mixture of a compound and an element. D
E 6. Diatomic molecule - a pure substance of two of the same atom bonded together.

4. Column A lists a substance. In Column B, list whether the substance is an element, a compound, a heterogeneous mixture, or a solution. (Remember a solution is a homogeneous mixture.) In Column C, list one physical properties of the substance.

	Column A	Column B	Column C
1.	Summer Sausage	Heterogeneous Mixture	Chunky, Brown
2.	Steam	Compound	Gas, Hot
3.	Salt water	Solution	Liquid, Clear
4.	Pencil lead (Pb)	Element	Grey, solid
5.	Dirt	Heterogeneous Mixture	Brown, Solid
6.	Silver (Ag)	Element	Silver, Solid
7.	Toothpaste (Na_2HPO_4)	Compound	White, Thick
8.	Italian Dressing	Heterogeneous Mixture	Liquid, Greasy
9.	Lemonade	Solution	Yellow, Liquid