CHEMISTRY

BOOKS - ICSE

ELEMENTS, COMPOUNDS & MIXTURES

Exercise Elements Compounds Mixtures

1. Represent with the help of a simple chart how matter is classified into pure or impure substances & further into elements,

compounds & mixtures, with elements further segmented.

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2. Define the terms elements, compounds & mixtures with a view to show their basic difference.

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3. An atom is the basic unit of an element'. Draw a diagram of an atom - divisible as seen today.

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4. "The modern periodic table consists of elements arranged according to their increasing atomic numbers'. With reference to elements with atomic numbers 1 to 20 only in the periodic table - differentiate them into -

metallic elements, metalloids, non-metals & noble gases.

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5. With reference to elements - define the term 'molecule'. Give two examples each of a monoatomic, diatomic & polyatomic molecule.

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6. Define the term 'compound'. In the compound carbon dioxide - the elements carbon &oxygen are combined in a fixed ratio. Explain.

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7. State five different characteristics of compounds. Give three differences between elements & compounds with relevant examples.

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8. Compare the properties of iron (II) sulphide with iron-sulphur mixture, considering iron sulphide as a compound & particles of iron & sulphur mixed together as an example of a mixture,

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9. State any one method - to separate the following mixtures- Two solid mixtures one of

which - directly changes into vapour on heating.

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10. State any one method - to separate the following mixtures- Two solid mixtures one of which - dissolves in a particular solvent and other does not

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11. State any one method - to separate the following mixtures- A solid-liquid mixture containing - an insoluble solid in the liquid component

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12. State any one method - to separate the following mixtures- A solid-liquid mixture containing - a soluble solid in the liquid component

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13. State any one method - to separate the following mixtures- A liquid-liquid mixture containing - two immiscible liquids having different densities

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14. State any one method - to separate the following mixtures- A liquid-liquid mixture

containing - two miscible liquids having different boiling points.

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15. State any one method - to separate the following mixtures- A liquid-gas mixture containing - a gas dissolved in a liquid component.

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16. State any one method - to separate the following mixtures- A gas-gas mixture containing - two gases with different densities.

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17. State any one method - to separate the following mixtures- Two solid mixtures one of which - dissolves in a particular solvent and other does not

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18. Explain with diagrams the process used to - separate the following substances from the given mixtures. Ammonium chloride from a mixture of - ammonium chloride & potassium chloride

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19. Explain with diagrams the process used to - separate the following substances from the

given mixtures. Iron from a mixture of - iron & copper

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20. Explain with diagrams the process used to - separate the following substances from the given mixtures. Sulphur from a mixture of - sulphur & copper

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21. Explain with diagrams the process used to - separate the following substances from the given mixtures. Lead carbonate (insoluble] from a mixture of - lead carbonate & water.

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22. Explain with diagrams the process used to - separate the following substances from the given mixtures. Lead nitrate (soluble] from a

mixture of - lead nitrate & water i.e lead nitrate solution.

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23. Explain with diagrams the process used to - separate the following substances from the given mixtures. Carbon tetrachloride from a mixture of - carbon tetrachloride [heavier component] & water.

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Objective Type Questions Elements Compounds Mixtures

1. Select the correct answer from A, B, C, D & E for each statement given below:

A: Gunpowder B: Iodine C: Boron D: Helium E: Bromine

1. A diatomic molecule.

2. A metalloid

3. A non-metal which is lustrous.

4. A mixture consisting of elements & a

compound.

5. A noble gas.

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2. Match the separation of components in List I with the most appropriate process in List II.

List I	List II
1. Naphthalene from naphthalene & sodium chloride.	A: Separating funnel
2. Cream from milk.	B: Sublimation
3. Kerosene oil from kerosene oil & water.	C: Boiling
4. Lead nitrate from an aqueous solution of lead nitrate.	D: Centrifugation
5. Ammonia from an aqueous solution of ammonia.	E: Distillation

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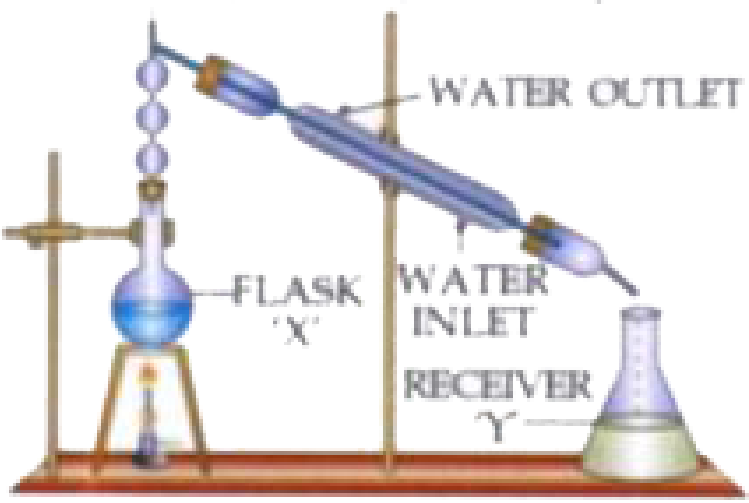
3. The diagram represents fractional distillation for separation of mixtures. Answer the following: Can two immiscible liquids be separated by this process.



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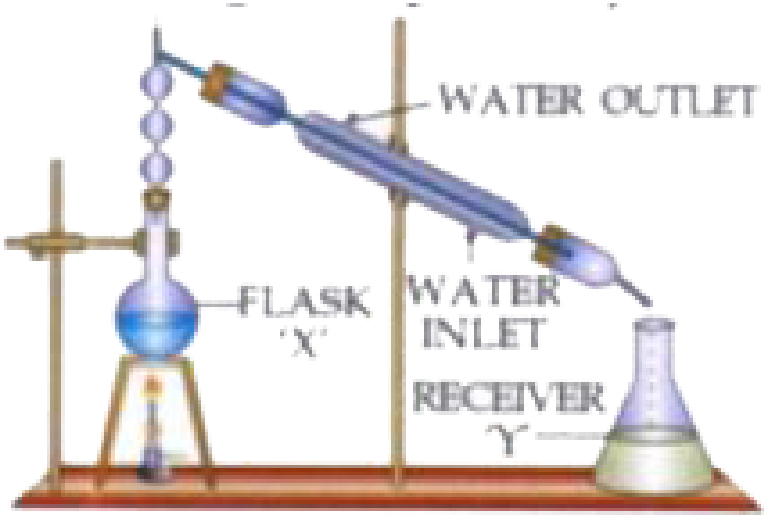
4. The diagram represents fractional distillation for separation of mixtures. Answer the following: Separation of liquids by this process is based on which physical property.



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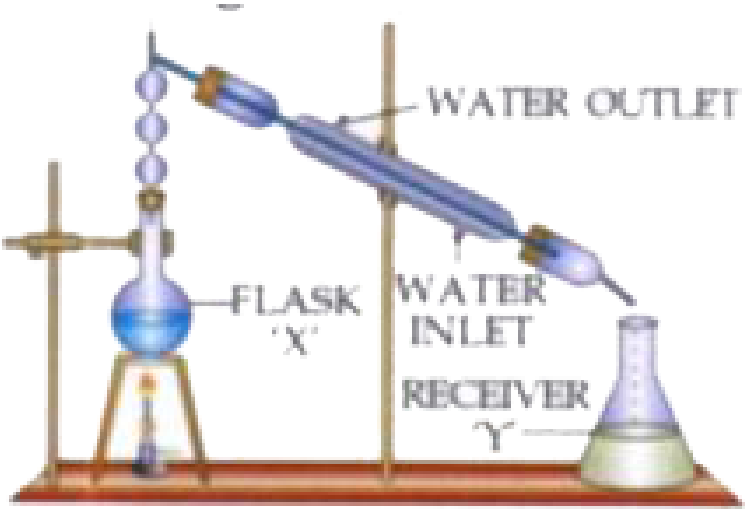
5. The diagram represents fractional distillation for separation of mixtures. Answer the following: If methyl alcohol & water are to be separated, which liquid would remain in flask 'X' after condensation.



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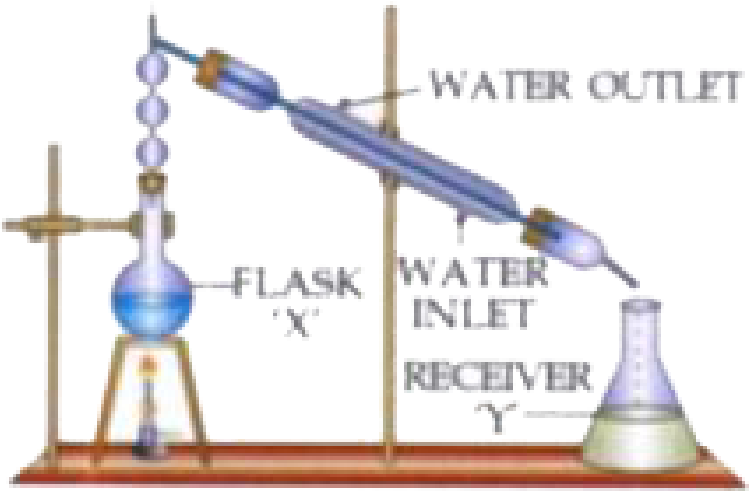
6. The diagram represents fractional distillation for separation of mixtures. Answer the following: Can two immiscible liquids be separated by this process.



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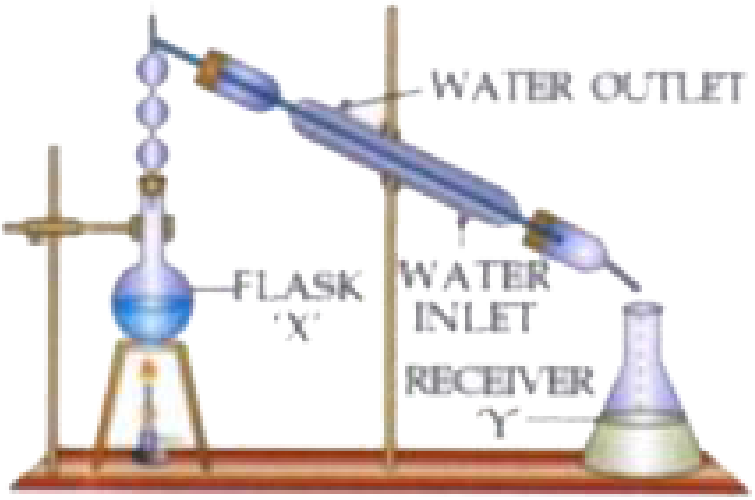
7. The diagram represents fractional distillation for separation of mixtures. Answer the following: State the purpose of the fractionating column in the apparatus.



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8. Select the correct answer from the choice in bracket to complete each sentence: Dust in air is an example of_____ [heterogeneous/homogeneous) mixture.

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9. Select the correct answer from the choice in bracket to complete each sentence: A soluble solid is separated from an insoluble solid by

_____ [fractional crystallisation/ solvent extraction]

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10. Select the correct answer from the choice in bracket to complete each sentence: The reactive element from the two monoatomic elements is _____ [neon/silicon].

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11. Select the correct answer from the choice in bracket to complete each sentence: Compounds are_____ [homogeneous or heterogeneous/always homogeneous) in nature.

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12. Select the correct answer from the choice in bracket to complete each sentence: An

example of a monoatomic molecule is _____ [hydrogen/helium).

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13. The constituents of a mixture can be separated by simple physical means.

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14. Give reasons for the following statements: Centrifugation can be used for separating an

insoluble heavier solid, present in an insoluble solid-liquid mixture.

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15. Give reasons for the following statements: The filter paper made into a cone & placed in a funnel for filtering out the solid particles in a solid-liquid mixture, should be moistened before placing.

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16. Give reasons for the following statements: Brass & bronze are examples of mixtures, while copper sulphate & lead nitrate are examples of compounds.

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17. Give reasons for the following statements: Zinc is considered an element, while zinc sulphide is considered a compound.

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