

Home assignment

1. a) iron
2. a) black
3. a) tap water
4. b) Distillation

Fill in the blanks

1. elements
2. elements, compounds
3. mixtures
4. filtration
5. crystallization
6. ~~sublime~~

are used for the following:

1. Residue
2. distillate
3. Decantation
4. Fractional distillation

Level-2 (very short questions)

1. Matter is anything that has mass and occupies space and can be perceived by our senses.
2. ~~Photolysis~~ ^{Burning of paper} is the chemical reaction that takes place in the presence of heat.

3. Floods and epidemics are undesirable changes.

4. When a candle is burnt the wax melts and turns into liquid state. As some of the molten wax drops down it solidifies again. So, it is a physical change. Simultaneously most of the molten wax rises up to wick, turns into vapour and burns with the flame. Two new substances are formed, i.e. water vapour and carbon dioxide. Burning of candle is both physical and chemical change.

5. The main purpose of separating a mixture are:

- * To remove undesirable and harmful substances.
- * To get useful substances.
- * To get completely pure substances for preparing other useful substances.



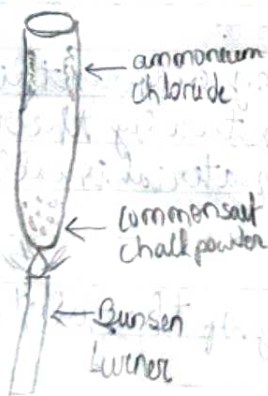
- Components with very similar physical and chemical properties can be separated.

Use:

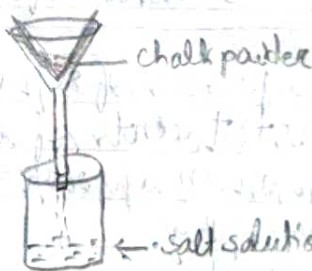
- It can be used to separate drugs from blood and also colours in a dye.

2) When a mixture of common salt, chalk powder and powdered camphor is heated then, powdered camphor will sublime. Then, the mixture contains common salt and chalk powder. This mixture is added to water then, common salt dissolves in water and chalk powder is insoluble in water. When this mixture is filtered in a filter paper then, the chalk powder collected on the filter paper is residue whereas the salt solution passes through the filter paper as filtrate. Then the salt solution is evaporated to get common salt from water.

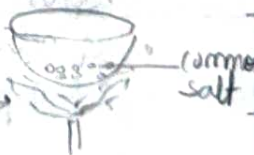
Sublimation



Filtration



Evaporation





		Date _____ Page _____
3)	Evaporation	Boiling
	<ul style="list-style-type: none"> Evaporation is a slow process. Evaporation takes place from the surface of the liquid. Evaporation takes place at all temperatures below its boiling point. 	<ul style="list-style-type: none"> Boiling is a fast process. Boiling takes place from all the parts of the liquid. Boiling takes place at a fixed temperature on heating i.e. at its boiling point.
4)	Atoms	Molecules
	<ul style="list-style-type: none"> Atom is the smallest unit of an element that can or can't exist freely. Atoms are highly reactive. An atom can or can't exist freely. 	<ul style="list-style-type: none"> Molecule is a set of atoms that are held together with the help of a bond and is the smallest unit of a compound. Atoms Molecules are less reactive. Molecules always exist in free state.



6) The process in which a solid directly changes into vapour form is called sublimation. This method is used for solid mixtures in which one of the components can sublime on heating.

7) * Separation of cream from milk
* Squeezing out of water from wet clothes in washing machine

8) Magnetic separation is used when one of the components of a mixture is magnetic in nature. This process is used when one of the components in a solid-solid heterogeneous mixture.

9) In distillation, the components of a solid-liquid mixture are obtained but in evaporation, only solids are obtained. Therefore, distillation is more advantageous than evaporation.

10) Need for the separation of substances are:

- * To get 2 or more useful products
- * To remove impurities from the useful product
- * Remove the harmful substances from useful substances.

11) Pure substances have a definite composition and a definite set of properties such as boiling point, melting point, density etc. They are all homogeneous, i.e., their composition is uniform throughout the bulk. Both elements and compounds are pure substances.

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10) The majority of pure substances are necessary for preparing medicines in laboratories, for making solutions by chemists etc.

12) When a mixture of salt, chalk powder and powdered camphor is heated, camphor can sublime. We can separate the mixture of common salt and chalk powder by putting the mixture in water. As we know that common salt dissolves in water and chalk powder is insoluble in water, so, the chalk powder could be separated from the salt solution by using a filter paper. Common salt is obtained from the salt solution by evaporation.

Level 3 (Short questions)

1. The process of separating different dissolved constituents of a mixture by their adsorption on an appropriate material is called chromatography.

Advantage:

- A very small quantity of the substance can be separated.