

New Era Public School [2021]

Class : 6th Subject: Science

Solved Assignment of Unit - II

Lesson No: 4 Separation of Substances

Short Answer Question

Q1. Give two characteristic properties of pure water?

Ans: Melting Point and boiling Point are two characteristic properties of pure water.

Q2. Give two differences between homogenous and heterogenous mixtures?

Ans. Homogenous mixtures	Heterogenous mixtures
1. In a homogeneous mixtures, the components of a mixture are uniformly spread throughout the mixture.	In heterogenous mixture, the components are not spread uniformly.
2. In a homogenous mixture The different components cannot be seen separately	In a heterogenous mixtures, the different components can be seen separately.

Q3. Which process can be used to separate a mixture of iron pieces and coal?

Ans: Magnetic Separation can be used to separate a mixture of Iron Pieces and coal.

Q4. Name the processes used to remove insoluble impurities in water treatment Plants?

Ans: The processes are used to remove insoluble impurities in water treatment plants are -

1. Sedimentation and decantation
2. Loading
3. Filtration and
4. Chlorination

Q5. Define Solubility?

Ans. The solubility of a substance is the maximum amount of substance that will dissolve in a given amount of solvent at a certain temperature.

Q6. What is a saturated solution?

Ans. A saturated solution is one in which no more solute can be dissolved.

Long Answer Questions:

Q1. Write a short note on why we separate mixtures into their components?

Ans. It is necessary to separate mixtures into its components either to recover useful components or to remove undesirable components.

1. The separation of salt from seawater and the recovery of petrol, cooking gas and other useful products from crude oil are some examples of how useful products are obtained by separating a mixture into its components.
2. The removal of undesirable components including dust particles and germs from river water to make it drinkable and the removal of impurities such as pieces of stone and husk from grains to make them edible.

Q2. Describe, giving examples, the following method of separation of mixtures:

i) Winnowing: The mixture of grain and chaff obtained after threshing is dropped slowly from a height in breezy conditions. The heavy grains fall almost vertically down, while the unwanted lighter chaff is carried to some distance by the breeze. Thus, two different heaps of light (Chaff) and heavy (grain) materials are formed. This is called winnowing.

ii) SIEVING: is a method of separating components of different sizes in a mixture using a sieve. A sieve is a mesh fixed tightly in a frame. Sieves are commonly used in kitchens to separate unwanted impurities from flour. A huge sieve is used at construction sites to separate sand and gravel.

iii) SEDIMENTATION: is the process of settling down of heavy solids in a mixture of a liquid and an insoluble solid for example if a mixture of sand and water is allowed to stand undisturbed for some time, the sand (solid) will settle down as sediment.

Q3. Draw a labelled diagram of the apparatus you would use to make distilled water in the laboratory.

Ans. Refer fig no. 4.9 of Pg no. 42.

Q4. Which difference in property is used to separate mixtures by distillation and through a separating funnel?

Ans. In the process of distillation, a solution is heated till the solvent starts evaporating. This vapour is collected and condensed to give back the pure solvent. The water obtained after distillation of water is called distilled water. While as a separating funnel is used for the separation of immiscible liquids. The mixture of immiscible liquids is filled in the separating funnel placed on a stand. It is allowed to stand for sometime until distinct layers are formed. The lighter liquid floats on the top and the heavier liquid settles at the bottom.

A. Multiple Choice Questions

1. c) 2. b) 3. a) 4. a) 5. c) 6. c) 7. a)
8. b) 9. d) 10. a)

B. Fill in the blanks.

1. components 2. Heterogeneous and Homogeneous
3. Sieving 4. Threshing 5. Solvent 6. evaporation and condensation. 7. Loading 8. Magnetic Separation
9. Evaporation 10. Separating Funnel

C. TRUE OR FALSE

1. F 2. F 3. T 4. F 5. F 6. T 7. F 8. T



Lesson No: 5 Topic: Fibre to Fabric

SHORT ANSWER QUESTIONS:

Q1. What is fibre?

Ans. A fibre is a thin thread of a natural or artificial substance, especially that is used to make cloth.

Q2. Name the two types of fabrics with an example each.

Ans. There are two types of fabrics are:

1. Natural Fabrics: for example, wool, cotton etc.
2. Synthetic fabrics: for example, rayon, nylon etc.

Q3. Give reasons why nylon clothes should not be worn in the kitchen.

Ans. Nylon clothes catch fire easily and are therefore dangerous to wear in the kitchen.

Q4. Define Spinning.

Ans. Spinning is the process of transforming fibre into yarn or thread.

Q5. What is weaving?

Ans. Weaving is a process of arranging two threads of yarn together to get a fabric.

Q6. Name any four things that can be made from the jute fibre?

Ans. 1. Gunny bags 2. ropes 3. curtains and carpets are made from the jute fibre.

Long Answer Questions

Q1. List the advantages and disadvantages of Synthetic fibres.

Advantages of Synthetic fabrics

1. They are stronger than natural fabrics
2. They do not wrinkle easily
3. They are easy to wash and then dry easily
4. They are not attacked by moths and moulds

Disadvantages of Synthetic fabrics

- They do not allow air to pass through them easily
- They catch fire easily and are therefore dangerous to wear in the kitchen.
- They do not absorb sweat.
- They are unsuitable for wearing in hot and humid weather

Q2 Describe the steps followed, to make cotton cloth from cotton fibre?

Ans. The steps involved in making cotton fabric are

1. GINNING: The raw fibres are separated from the seeds by a process called ginning. Ginning is done by machines called cotton gins. Dirt and other waste are also removed.
2. CARDING: The cotton fibres are straightened and arranged so that they are easier to spin into threads. The fibres may also be combed to remove the shorter fibres
3. SPINNING: The clean, straightened cotton fibres are spun into yarn by a process called spinning. Spinning draws out the

The short fibres from the mass of cotton are twisted together into a long, continuous thread. Spinning is the process of transforming cotton fibre into a thread.

4. WEAVING: The yarn is woven into cotton cloth by weaving. Special machines called looms are used to weave the cloth. Weaving is a process of arranging two threads of yarn together to get a fabric.

Q³. Why is wool worn in cold weather?

Ans Wool retains air between the fibres. That is why it is fluffy. It enables us to retain body heat. Woollen clothes are, therefore, good for wearing in cold weather.

Q⁴. How is silk obtained?

Ans Silk is obtained from the cocoon that the silkworm spins around itself. The silkworm feeds on mulberry leaves. It then weaves a cocoon around itself. The fibre it makes for this purpose is strong and shiny. The cocoon is boiled in water to kill the silkworm, and the cocoon is unwound to get the silk fibre. The property of silk which makes it so valuable is its shiny appearance.

A. Multiple Choice Questions

1. c) 2. a) 3. b) 4. b) 5. b) 6. a)
7. c)

B. Fill in the blanks

1. Fabrics 2. Synthetic 3. Spinning
4. Jute 5. Sericulture

C. TRUE OR FALSE

1. F 2. F 3. F 4. T 5. F

Lesson No: 6

Topic: Sorting Materials into groups

Short Answer Questions

Q1. Define classification?

Ans: The process of grouping objects based on known criteria is called classification.

Q2. What is matter?

Ans: Matter is anything that has mass and occupies space.

Q3. How can we make a non-lustrous copper strip shine?

Ans: A copper strip loses its lustre on exposure to air and moisture. However, if copper strip is rubbed with sandpaper, the top layer is removed and the shiny surface can be seen again.

Q4. At what temperature does ice change to liquid water?

Ans. At temperatures above 0°C , pure water ice melts and changes state from a solid (ice) to a liquid (water).

Q5. How can matter be converted from one state to another?

Ans. Matter can change from one state to another if heated or cooled. If ice (a solid) is heated it changes to water (a liquid) through a process called melting. If a liquid changes into gases through a process called evaporation.

Q6. Do gases dissolve in water? Give examples.

Ans. Yes, gases dissolve in water for example oxygen dissolved in water is used by fish for respiration. Carbon dioxide dissolved in beverages such as colas makes the drinks fizzy.

Q7. How are materials classified based on the amount of light that passes through them?

Ans. Materials may be classified based on the amount of light that can pass through them.

1. If almost all the light can pass through a material, it is called transparent.
2. If no light can pass through a material, it is called opaque.

3. If light can pass through a material partially, it is called translucent.

Long Answer Questions:

Q1. What is the need for classification?

Ans. We need for classification for two main reasons:

1. To help us organise things in such a way that it is easy to find them again. For example, in a supermarket, things that are similar in nature are kept near each other. They may be further categorised based on their size, name or price. This makes it easy to find any particular item that we are looking for.
2. To allow the systematic study of things. For example, further classification of living things beyond plants and animals has helped scientific research.

Q2. Explain the differences between miscible and immiscible liquids:

i) Immiscible liquids: - Are some liquids do not dissolve in water. Such liquids are said to be immiscible in water. Two liquids that do not mix together are called immiscible liquids. For example kerosene, mustard oil, mercury and varnish are immiscible in water.

2. Miscible liquids: are some liquids that dissolve in water. Such liquids are said to be miscible in water. Two liquids that mix together are called miscible liquids. For example Lemon Juice, Cough Syrup and honey are miscible in water.

Q4: Cooking vessels are made of metal but the handles are made of wood or plastic why?

Ans: Materials like wood in which heat flows slowly are called bad conductors.

Cooking utensils are made of metals because heat can easily pass through the metal to the food being cooked in the utensil. But the handles of cooking utensils are made of plastic or wood, which do not conduct heat, so that the utensils can be held easily.

Q5: Distinguish between transparent and opaque materials?

TRANSPARENT

1. If almost all the light can pass through a material, it is called transparent.

2. We can see through a transparent material. Glass, clean water and air are transparent materials.

OPAQUE

1. If no light can pass through a material, it is called opaque.

2. We cannot see through an opaque material. Cardboard and milk are opaque materials.

1 III) The liquid in which the solute ...

Q.6. Describe the properties of hard and soft materials with examples.

Ans: Those materials which cannot be easily compressed cut, moulded or scratched are called hard materials.

for example: If we press a piece of iron nail with our hands we will find that it cannot be compressed at all.

A piece of Iron cannot be cut, bend or scratched easily. Iron is a hard material.

Those materials which can be easily compressed cut, moulded or scratched are called soft material. For example

If we press a piece of sponge between our hands, we will find that it can be compressed easily into a smaller size.

Sponge is a soft materials.

A. Multiple choice Questions

1. b) 2. c) 3. b) 4. a) 5. b) 6. c) 7. c) 8. d)
9. d) 10. d)

B. Fill in the blanks

1. Classification 2. Matter 3. Solid, liquid and gases. 4. Solid 5. random 6. Liquid
7. gas 8. Soluble 9. bad 10. Translucent.

C. TRUE OR FALSE

1. F 2. T 3. F) 4. F) 5. F) 6. T) 7. F) 8. F) 9. F
10. F 11. F