

**Let's pave the way for learning and
Move Forward**

**STD – 8
Chemistry**



**State Council of Educational Research and Training (SCERT),
Kerala
2022**

PREFACE

The evaluation of the answer scripts of the First Terminal Examination 2022 and the classroom experiences shared by the teachers concerned, have brought to light the fact that our children have suffered some serious learning gap due to the non-availability of proper learning experiences as a result of the unprecedented situation created by the Covid Pandemic from 2019 to 2022. An activity book has been designed to assist children internalize the concepts which they ought to have mastered in the previous classes and with the intention to facilitate further learning. Necessary explanations and activities are included in the booklet to help children bridge the gap. It is hoped that this package will facilitate the learners for self-study or for studying with the help of their teachers and I wish them success in their endeavors to move forward with confidence.

Director
SCERT, Kerala

PROPERTIES OF MATTER

Molecule:- The smallest particle of a substance retaining all the properties of that substance is known as molecule.

Substances that exist in the solid, liquid, and gaseous states are made up of molecules.

Pure substance:- If a substance contains only one type of molecules, it is known as a pure substance.

Mixture:- If there are more than one type of molecules present in a substance, it is called a mixture.

Homogenous mixture:- If a mixture exhibits the same properties through out, that mixture is called homogenous mixture.

Heterogenous mixture :- If a mixture exhibits different properties in different parts, that mixture is called heterogenous mixture.

1. Classify the following substances into pure substances and mixtures and tabulate them.

Gold, Sugar solution, Ice, Salt solution, Soda water,
Silver, Muddy water, Tea, Common salt.

2. Classify the following mixtures into homogenous mixtures and heterogenous mixtures

Sugar solution, Mixture of chalk powder and water,
Salt solution, Mixture of sulphur and iron powder.

Methods of separation of components in a mixture.

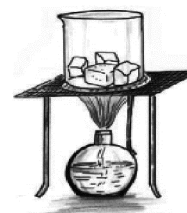
- | | |
|---------------|-----------------------|
| ■ Filtration | ■ Magnetic separation |
| ■ Evaporation | ■ Winnowing |

1. Match columns A and B suitably

A	B
Mixture	Method of separation of components
Mixture of iron powder and sand	Winnowing
Common salt from sea water	Magnetic separation
Tea dreg from tea	Evaporation
Chaff from paddy	Filtration

Heat ice cube as shown in figure

- What changes do you observe?.
- Which form of energy was utilised by ice to undergo the change ?
- Now heat the water obtained from the melting of ice. Note down the changes.
- How is steam converted to water again ? Which form of energy is released during this change ?

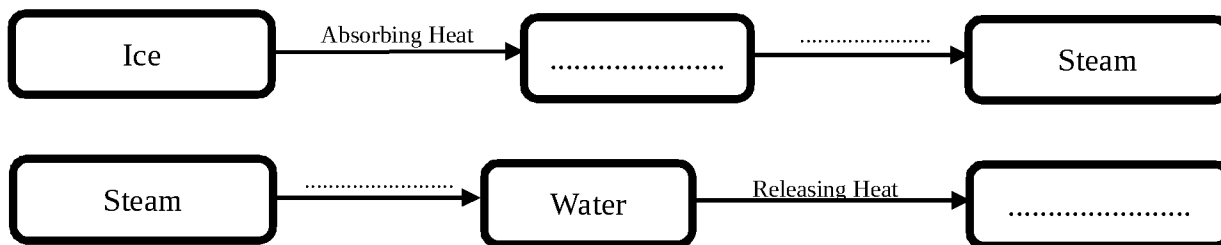


Substances undergo change of state when they absorb or release adequate amount of heat energy. On absorbing heat energy they change from the solid state to liquid state and then to gaseous state. Substances get converted from the gaseous state to liquid state and then to the solid state by releasing heat energy.

1. Complete the table

Change of state	Heat is absorbed/ Heat is released.
Ice changes to water Water gets converted into steam. Steam gets converted into water. Water changes to ice	

2. Complete the flow chart



CHEMICAL CHANGES

Physical change:- Change in the physical properties such as state, shape or size is termed as physical change. New substances are not formed during physical change. This is a temporary change.

Chemical change:- The process in which substances changes into new substances by absorbing or releasing energy is termed as chemical change. Chemical change is a permanent change.

1. Classify the following changes into physical change and chemical change.

Heating wax, Burning a piece of paper, Burning Magnesium ribbon,
Water changes to ice, Heating PVC pipe, Heating sugar.

Physical change	Chemical change

SOLUTIONS

- Solute + Solvent → Solution
- **Solute :-** In a mixture, the constituent present comparatively in smaller amount is called solute.
- **Solvent :-** In a mixture, the constituent present comparatively in larger amount is called solvent.
- All solutions are homogenous mixtures.
- There are different types of solutions depending on the physical state of solute and solvent.

1. Analyse the table and answer the following questions.

Solutions	Solute	Solvent	State of solute	State of solvent
Brass	Zinc	Copper	Solid	Solid
Soda water	Carbondioxide	Water	Gas	Liquid
Carbogen	Carbondioxide	Oxygen	Gas	Gas
Glycerine dissolved in water	Glycerine	Water	Liquid	Liquid

- Which one of these is a solid solution ?
- Identify the solute present in soda water ?
- Give an example of a gaseous solution ?
- Which is the solvent in a mixture of glycerine and water ?
- Which is the major component of carbogen?