



**CLASS-VI SUBJECT- SCIENCE**

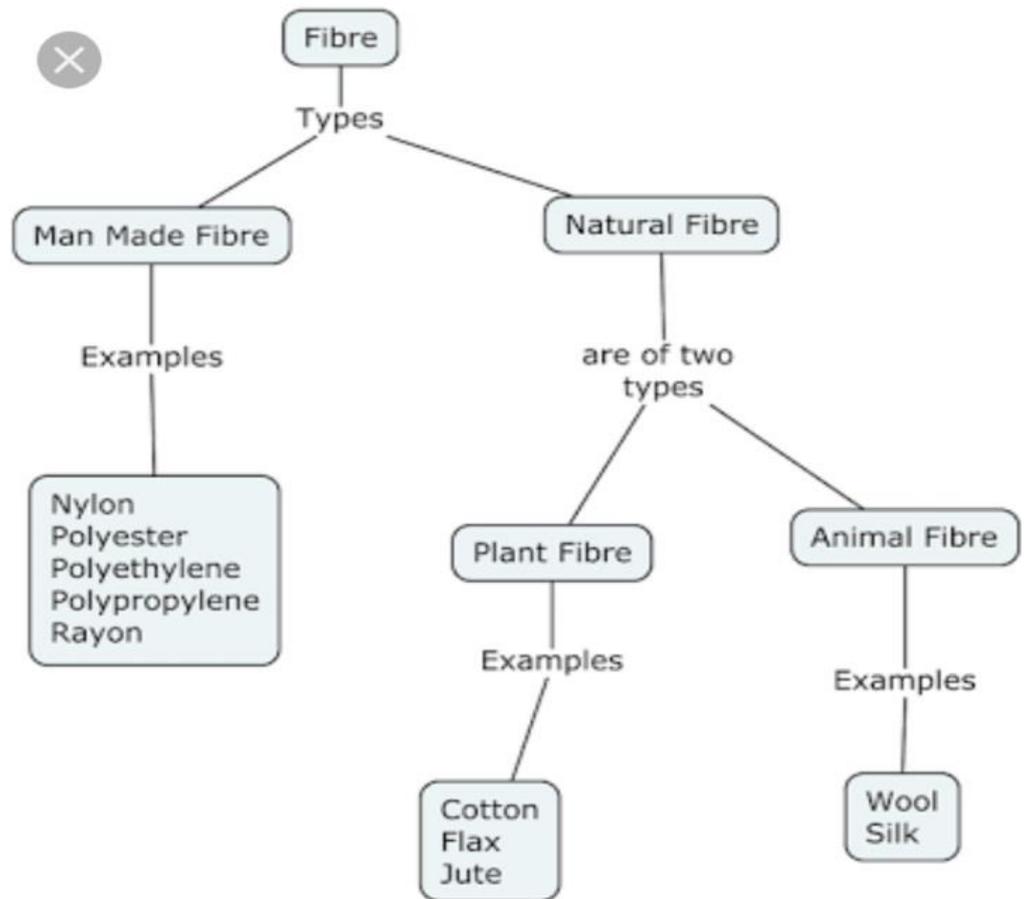
**TERM-1 SYLLABUS**

**Chapter-3**

**Fibre to fabric**

**Difficult words:-**

1. Weaving
2. Knitting
3. Separation
4. Spinning
5. Ginning
6. Retting
7. Shearing
8. Grading
9. Embroider.
10. Carding
11. Sericulture
12. Polyester
13. Biodegradable
14. Wrinkle
15. Stretchable

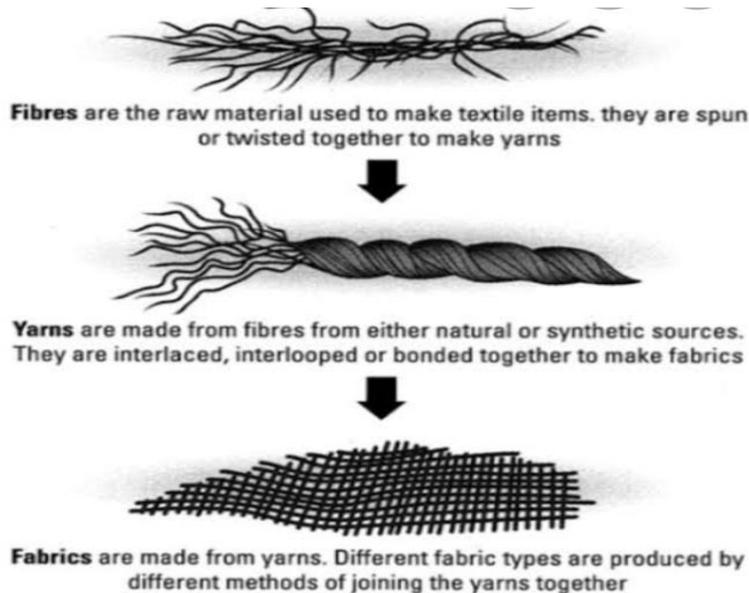


**Glossary:-**

1. Fibre: natural or synthetic filament that is spun into yarn.
2. Fleece: the coat of wool that covers a sheep
3. Ginning: the process of removal of cotton seeds from cotton bales
4. Spinning: the process by which twisting of fibres is done
5. Synthetic fibres: man-made fibres prepared from plant cellulose, etc,
6. Weaving :the process of converting yarn into cloth on a handloom
7. Yarn: continuous strand of twisted thread.

## Notes:-

### Fibre:-It is a single hair -like strand.



**Yarn to Fabric:-**The two main processes which are required to make yarn into fabric are weaving and knitting.

- Weaving:- It is the process in which two sets of yarn are arranged to make a fabric. weaving is done on looms. Loom is the machine used for weaving fabric from yarn.
- Knitting:- It is the process of formation of loops of yarn and drawing of new loops through those made previously.

**Types of Fibres:-** fibres are classified into two types they are natural and synthetic fibres.

- Natural fibre:-Natural fibres are fibres which are obtained from plants or animals. For example, cotton, jute, silk and wool.
- Synthetic fibre:- Synthetic fibres are man made fibres. They are made out of chemical such as crude oil.

**Sources of Natural Fibre:- Natural fibres are obtained from two sources:-**

- Plant fibre:--Fibres obtained from plants are called plant fibres. Ex:- cotton, jute.
- Animal fibre:-Fibres obtained from animals are called animal fibres. Ex:- silk,wool .

**Advantages of Synthetic Fibres:-**

- The synthetic fabric is very strong and durable
- It does not wrinkle.
- It dries quickly.
- It need no ironing.
- It is easy to clean.

## Difference between Natural fibre and Synthetic fibre:-

Natural Fibres	Synthetic Fibres
All the natural fibres come from nature	Synthetic fibres are man-made.
Natural fibres are comfortable to wear.	They are not as comfortable as natural fibres.
It has its natural colour	it can be made into different colour
It is easy to dye the natural fibre	Dyeing is not as easy as Natural fibre
When natural fibres are burned, it smells like burnt hair or paper	When synthetic fibre is burned, it smells like toxic chemicals
It is less durable	It is more durable
It is environment friendly	this is not environment friendly
It absorbs water	It does not absorb water

### Activity:

On an outline map of India colour the states which produce cotton and stick it in your notebook.

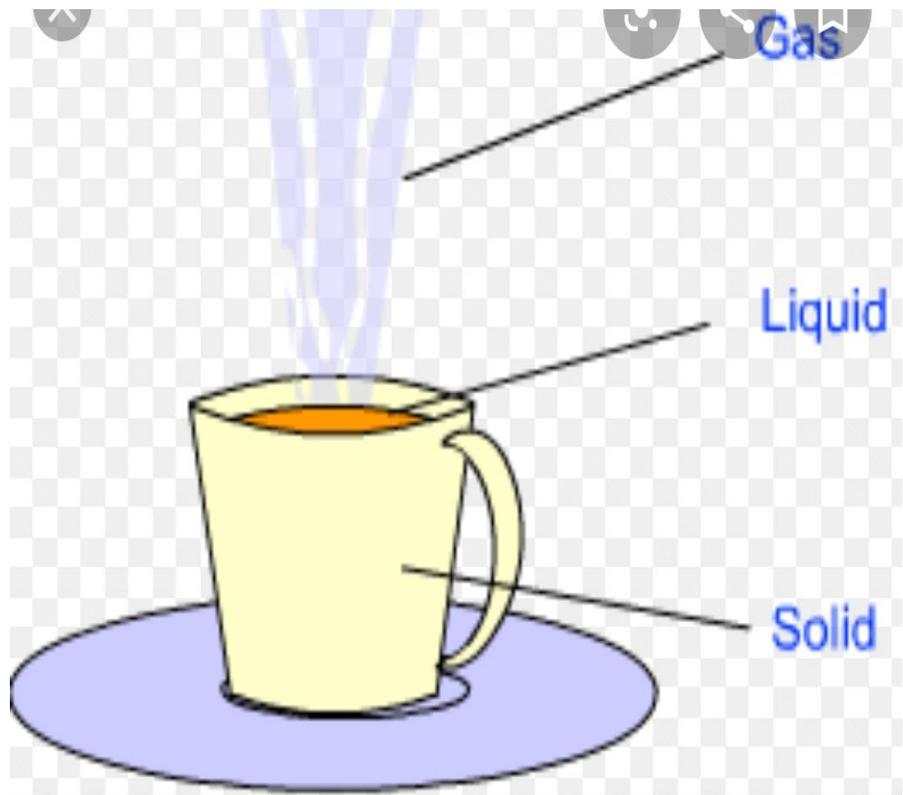


## Chapter-4

### Sorting materials into groups

#### Difficult words:-

1. Arrangement
2. materials
3. Classification
4. Lustrous
5. Appearance
6. Insoluble
7. soluble
8. solubility
9. Transparent
10. Translucent
11. Opaque
12. conduction
13. Magnetic
14. Insulator
15. combustibility



#### Glossary:-

1. Classification : grouping of objects on the basis of their similarities
2. Conductor : a material that allows electricity to pass through easily
3. Insulator : a material that does not allow electricity to pass through
4. Material : the substance from which a thing is made
5. Opaque : substances that do not allow light to pass through
6. Transparent : substances allowing light to pass through so that bodies can be distinctly seen
7. Translucent : substances allowing light to pass through diffusely

#### Notes:-

Classification:- The arrangement of materials/ things into different groups of classes on the basis of their common properties is known as classification.

#### Advantages of classification:-

1. Helps in identification of objects.
2. Helps in sorting of objects.
3. Helps in locating things.

4. Makes study of different objects easy and more meaningful rather than studying each object separately.
5. Helps to understand similarities and dissimilarities among objects.

**Materials:-** A substance used in making different objects is known as materials.

Properties of materials:-

**Appearance :-** Materials can be classified on the basis of their appearance texture and lusture.

<b>Lustrous material</b>	<b>Non lustrous materials</b>
Materials which have shine are known as Lustrous materials Ex:- Metals	Materials which do not have shine are known as non lustrous materials. Ex:- paper, plastic etc

**Hardness :-**Materials which cannot be compressed easily are known as hard materials. Materials which can be compressed easily are known as soft materials.

**solubility :-** it is defined as the property to completely dissolve.

<b>Soluble</b>	<b>Insoluble</b>
Substance which completely dissolve in water is called soluble. Ex:- Sugar	The substance which does not dissolve in water is called as insoluble. Ex:- Chalk powder
<b>Miscible</b>	<b>Immiscible</b>
Liquids which can dissolve in one another are known as miscible liquids. Example :-water and milk	Liquids which do not dissolve in one another are known as immiscible liquids. Example:- water and petrol

**Transparency :-** It is divided into three parts:-

<b>Transparent</b>	<b>Translucent</b>	<b>Opaque</b>
Substances through which things can be seen are called transparent Ex:-air.	Substances through which things can be partly seen are called translucent Ex:-butter paper.	Substances through which things cannot be seen are called opaque Ex:-metal box.

**Conduction of heat and electricity** :- It comprises of two parts:-

Conductor	Insulators
Substances that allow heat and electricity to pass through them are called good conductors of heat Ex:-metals.	Substances that do not let heat and electricity pass through them are called bad conductors of heat Ex:-wood.

**Attraction towards magnet** :-

Magnetic substances	Non-magnetic substances
Solids that get attracted to a magnet are called magnetic materials Ex:-iron.	A poor electrical conductor is also called an electrical insulator Ex:-wood.

**Combustibility** :- Substances which burn on heating at a particular temperature are called combustible substances.

Combustible solids: Wood, paper, coal.

Combustible liquids: Petrol, diesel, ghee

Combustible gases: CNG, LPG, biogas.

**States of matter:-**

Solid	Liquid	Gases
Have strong intermolecular force. Very less intermolecular space. Have definite shape and volume. Have high density. Solids cannot be compressed.	Weak intermolecular force. Large intermolecular space. Do not have definite shape but have definite volume. Density is low. Liquids can be compressed.	Very weak intermolecular force. Very large intermolecular space. No definite shape and volume. Very low density. Gases can be highly compressed.

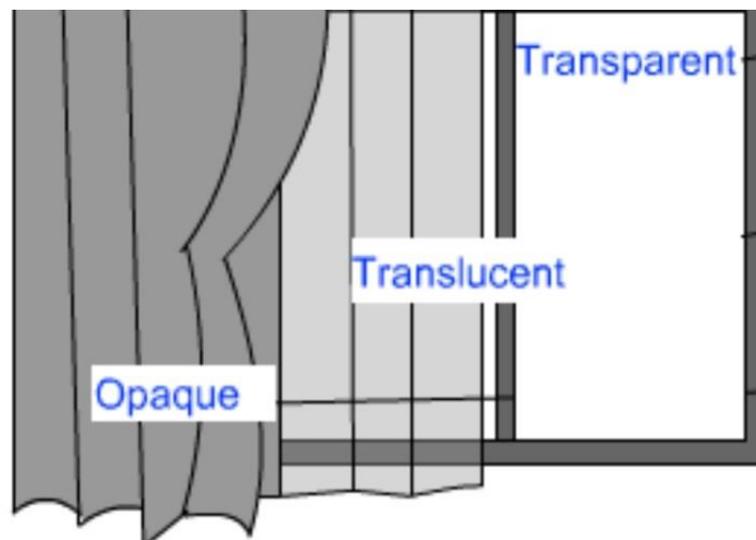
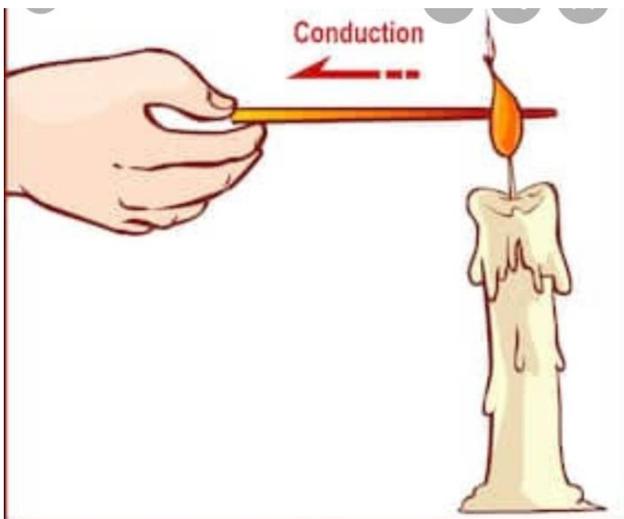
### Activity:-

**Aim:-**Testing solubility of solids in water e Take four beakers and fill each with 200 mL of water.

**Method:-**Put half a spoon of chalk powder, sugar, salt and sand into different beakers. Stir them carefully.

**Observation:-**Now will observe that sugar and salt mix in water evenly. This means they are water soluble. You will observe that chalk powder and sand do not dissolve in water, but settle at the bottom. They are water insoluble.

### Diagrams:-

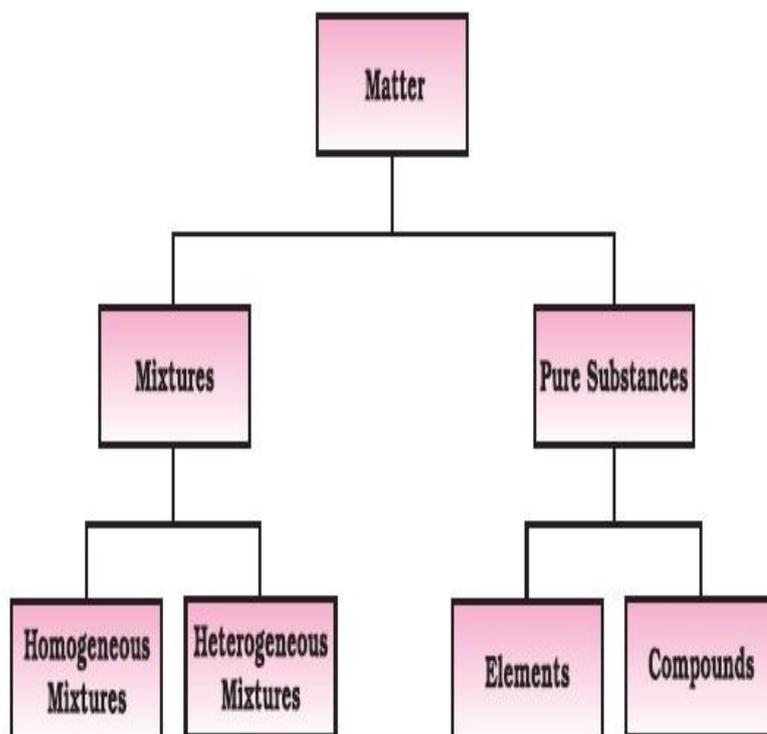


## Chapter-5

### Separation of substances

#### Difficult words:-

1. Threshing
2. Mixtures
3. Separation
4. Heterogeneous
5. Homogeneous
6. Threshing
7. Sieving
8. Evaporation
9. Winnowing
10. Distillation
11. Sedimentation
12. Decantation
13. Filtration
14. Saturated
15. Churning



#### Glossary:-

1. Decantation : the process of transferring (liquid) from one container to another without disturbing the materials settled at the bottom
2. Filtration : the process of removing impurities (especially from a liquid) by means of a filter
3. Handpicking : removing the undesirable components from a mixture by hand
4. Mixture : a substance which has two or more elements and compounds
5. Saturated solution : a solution in which no more solute can be dissolved at a given temperature
6. Sieving : the process of separating impurities with the help of sieve or strainer
7. Sedimentation : to allow materials like mud and sand to settle down in some liquid
8. Threshing: the process of releasing grains from the chaff either manually or by using animals or tractors
9. Winnowing :the process of separating lighter husk from heavier grains

## Notes:-

**Separation** :-It means removing One things from the other or the act of separating one substance from the other in a mixture.

Need for separation:-

1. To obtain two different but useful components of a mixture(Butter is separated from milk).
2. To remove harmful components or impurities from a mixture (small pieces of pebbles are separated from rice before cooking)
3. To remove non-useful components of a mixture (tea leaves are separated from tea).

Matter:- Anything that occupies space and has mass is known as matter .

Types of matter:- Matter is of two types.

Pure mixture	Mixtures
Pure substances consists of particles of only one kind	Mixtures consists of two or more types of particles
Pure substances melt and boil at a fixed temperature	Mixtures do not melt and boil at a fixed temperature

Types of mixtures:-

1. Homogeneous mixtures:-These have uniform composition. For example, air, tea.
2. Heterogeneous mixtures:-These do not have uniform composition. For example, soil.

## **Methods of separation:-**

**Separation of Solid from Other Solids:-When a mixture contains two or more solids then these can be separated by using these methods**

1. Handpicking :- In this method, the undesirable materials are separated by hand. For example, it is used to separate stones from rice, wheat, pulses, etc. In coal mines, chunks of rocks are separated from coal.
2. Threshing:- The process of releasing grains from the chaff either manually or by using animals or tractors.
3. Winnowing:-The process of separating lighter husk from heavier grains.
4. Sieving/Sifting:-It is used to separate substances having different sizes by passing them through a sieve. Sieve has small holes on it.
5. Magnetic separation:- This method is used when one of the constituent of a mixture is magnetic in nature or attracted to a magnet.

### Separation of solid from liquids:-

a. Separating soluble solid from its solution :- It consists of two parts

Evaporation	Distillation
In this method the water gets evaporated.	It is the process by which a soluble solid is separated from the liquid by heating the solution and condensing the vapours using cooling tube

b. Separating insoluble solids from the liquids:- It consists of four parts

Sedimentation	Decantation	Filtration	Loading
It is the method of separating two components in such a way that the heavier substance settle down	The process of transferring (liquid) from one container to another without disturbing the materials settled at the bottom	The process of removing impurities (especially from a liquid) by means of a filter	This method is used for separating the suspended particles from gas or liquid by making them heavier

### Separating liquids from liquids:-

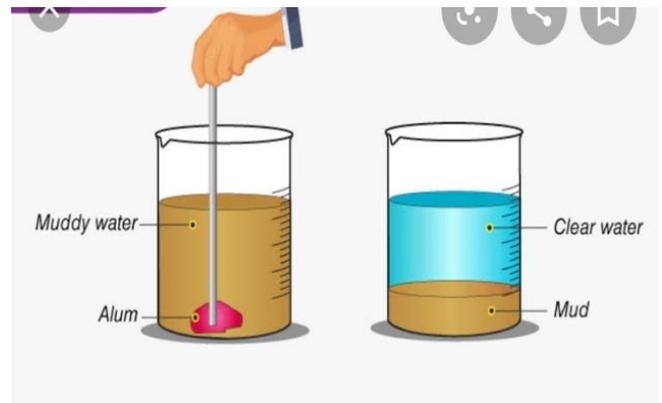
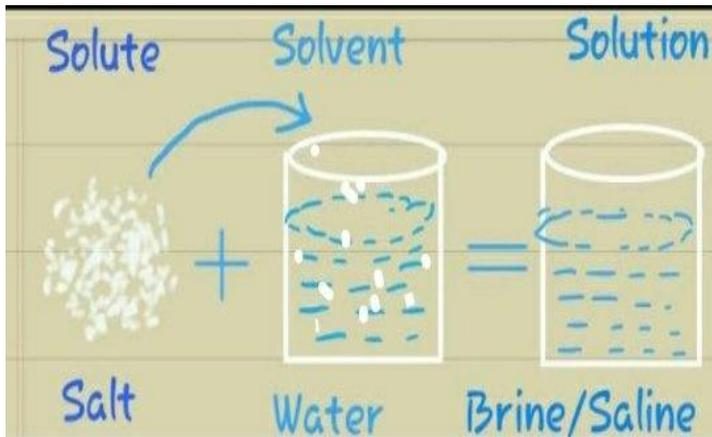
Miscible	Immiscible
Liquids which can dissolve in one another are known as miscible liquids. Example :-water and milk	Liquids which do not dissolve in one another are known as immiscible liquids. Example:- water and petrol

**Solubility:- It is the ability of a substance to get dissolved.**

Solution	Solute	Solvent
A homogeneous mixtures of two or more substances	The component of a solution that is present in lesser amount than the solvent.	The component of solution present in th greatest amount the substance in which the solute is dissolved,
Saturated solution	Unsaturated solution	

It is a solution in which no more solute can be dissolved at a certain temperature

It is a solution in which more and more solute can be dissolved at a certain temperature



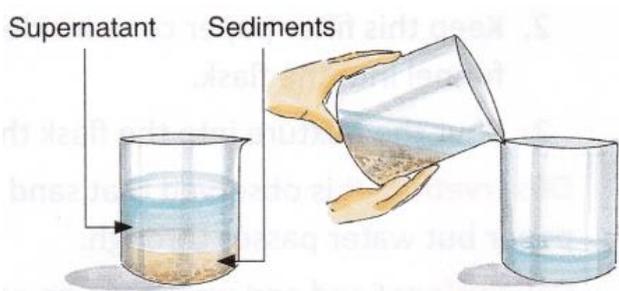
### Activity:-

Aim:-To separate clear water from muddy water by loading

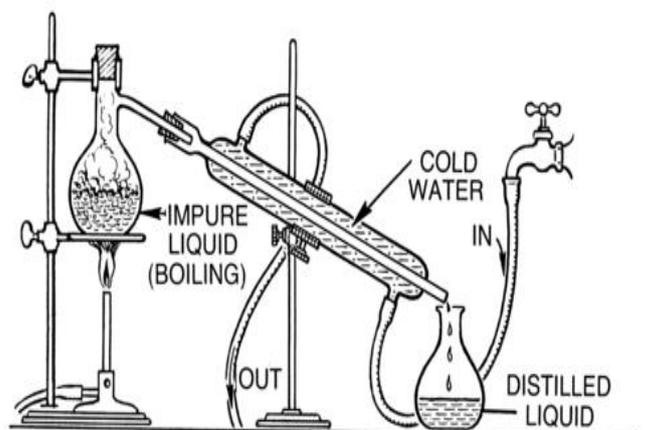
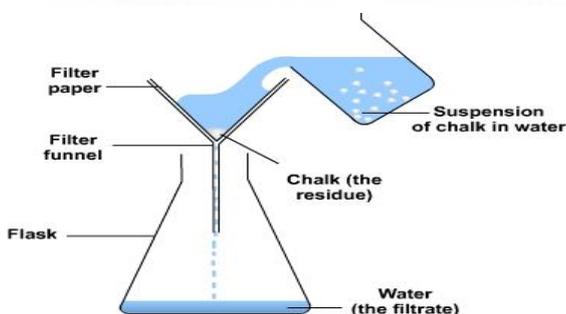
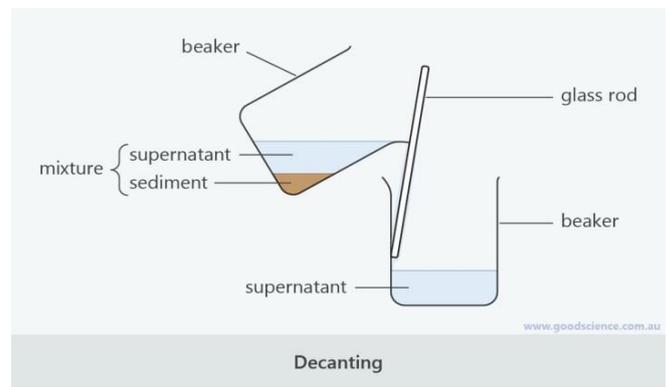
Method:-Take a piece of alum and tie it to a long cotton thread. Pour some muddy water in a beaker. Stir it well. Lower the alum piece in muddy water and gently move it up and down. In a few minutes, the mud will settle down and the clear water will collect above the mud.

Observation:- The fine particles of mud which are suspended in water gets attached or loaded to the dissolved alum particles, becomes heavy and settles down at the bottom of the vessel. Thus, loading fastens the process of sedimentation.

### Diagrams:-



Separating a mixture of sand and water using sedimentation and decantation

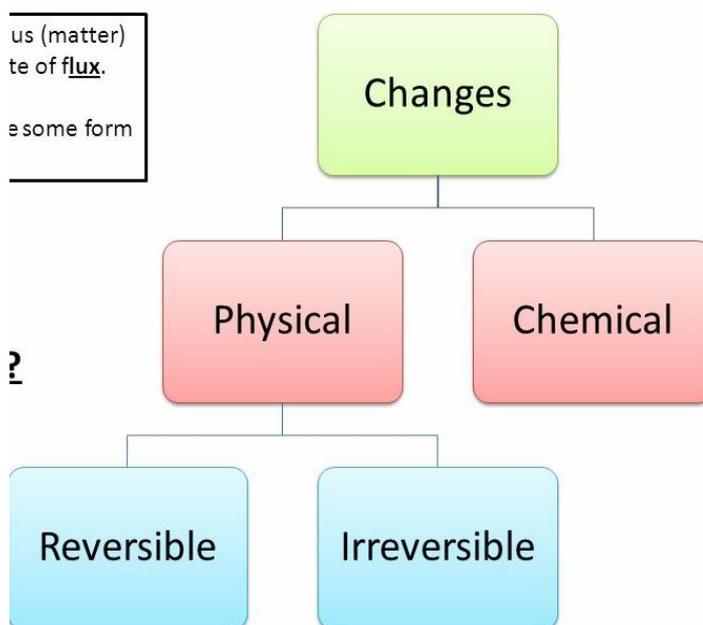


## Chapter-6

### Changes Around Us

#### Difficult words:-

1. Moulding
2. Ripening
3. Permanent
4. Sapling
5. Contraction
6. Expansion
7. Condensation
8. Boiling
9. Melting
10. Environment
11. Periodic
12. Physical
13. Chemical
14. Graphite
15. Photosynthesis



#### Glossary:-

1. Chemical change : a permanent change in which a new substance is formed with different properties
2. Irreversible : a change that cannot be reversed
3. Evaporation : process by which liquid changes into vapour
4. Periodic : occurring at a regular interval of time
5. Physical change : a temporary change in which no new substance is formed
6. Reversible: a change that can be reversed

#### Notes:-

Change:-change is defined as anything that has altered its colour, shape, Size or position from its original state.) For—example:

Change in shape: A lump of clay changes into a toy hut

Change in position: Leaves falling from trees.

Change in size: Your nursery uniform does not fit you because you have grown bigger in size.

Change In colours: Many fruits change their colour on ripening.

**Types of changes:- There are different types of changes occurring at each moment these having categorised into :-**

**Reversible And Irreversible Changes :-**

Reversible change	Is reversible change
A reversible process is a process that can be reversed in order to obtain the initial state of a system	An irreversible process is a thermodynamic process that cannot be reversed in order to obtain the initial state of a system
Can be reversed	Cannot be reversed
Infinite changes occur in the system	Finite changes occur in the system
There is an equilibrium between the initial state and the final state of the system	There is no equilibrium in the system

**Physical And Chemical Changes:-**

Physical changes	Chemical changes
Only physical appearance changes.	The initial substance is lost.
No new substance is formed.	An entirely new substance is formed.
The change is generally reversible.	The change is always irreversible.
Initial substance may be obtained by simple physical means.	The initial substance can never be obtained.
The properties of the initial substances are not lost even after the change.	The properties of the initial substances are lost and properties of the new substances formed are entirely different from that of the initial substance.
Energy is not taken in or given out.	Energy is either taken in or given out.

**All physical and chemical changes can be for the classified as :-**

1. slow and fast changes :-

2. desirable and undesirable changes
3. periodic and non periodic changes
4. controlled and uncontrolled changes

### Ways by which changes occur :-

1. Boiling
2. Condensation
3. Heating of metal
4. Freezing
5. Melting

### Activity:-

Aim:- To make a chemical model of 'setting sun'.

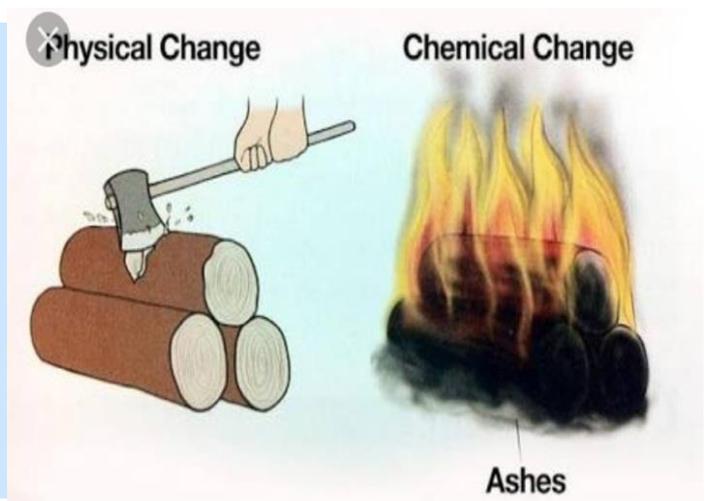
Materials required: Two spoonful of lemon juice, a spoonful of lime (choona), a spoonful of turmeric, two glass tumblers, water, a steel spoon, a dropper.

### Method:

1. Put one spoonful of turmeric in one of the glass tumblers and then half fill it with water. Stir the contents well and note the colour of the solution.
2. Put one spoonful of lime in the second glass tumbler and half fill it with water. Stir the contents thoroughly and note the colour of the solution.
3. Pour some amount of lime solution in the tumbler containing turmeric solution. Stir the contents thoroughly and note the colour of the solution.
4. To the above solution add lemon juice drop by drop with the help of a dropper. Stir the solution continuously and note the changes in the colour taking place.

Diagrams:-

### Reversible and Irreversible Changes



## Chapter-7

### Getting to Know Plants

#### Difficult words:-

1. Categories
2. Unbranched
3. Conical
4. Biennial
5. Perennial
6. Germination
7. Fibrous
8. Vegetative
9. Reproductive
10. Respiration
11. Aerial
12. Epical
13. Tendrils
14. Photosynthesis
15. Chlorophyll
16. Pneumatophores



#### Glossary:-

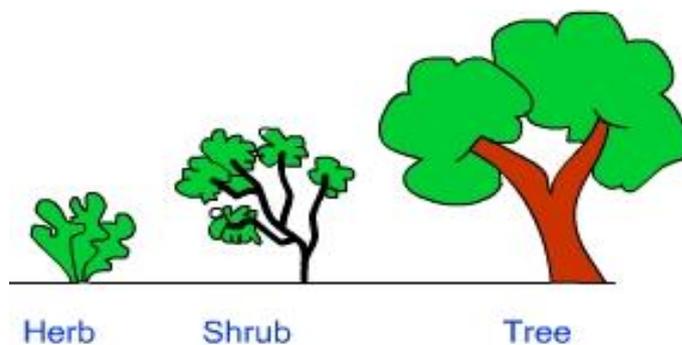
1. Herb : non-woody, seed-bearing plant
2. Lamina : flat green surface of the leaf
3. Node : place on the stem from where a branch or leaf arises
4. Photosynthesis: process by which plants make food using carbon dioxide and water in presence of sunlight
5. Shrubs : woody plants smaller than a tree with branches arising from the base
6. Spine : leaf and stem get modified into hard and pointed structure called spine
7. Tendril : leaf and stem get modified into thread-like structure called tendril
8. Trees : very tall plants having hard and thick brown stem

## Notes:-

### Classification of plants:-

On the basis of growth habits :-

Herbs	Shrubs	Trees	Climbers	Creepers
Have soft, green and weak stems.  Example, rice, wheat, maize, etc.	They are bushy and have hard stems that do not bend easily. Example, lemon, jasmine, Nerium, etc.	These are big plants which have a tall and strong stem (trunk). Example, mango, neem, coconut, etc.	Have weak stems and cannot stand erect. Example, pea, grapevine, etc.	Plants which creep on the ground and spread out. Example, pumpkin and watermelon.



### On the basis of their life cycle:-

Annual	Biennial	Perennial
Plants whose life cycle is completed in one season.  These are generally herbs.  Example, wheat and mustard.	Plants whose life cycle requires two seasons for completion.  They are generally herbs and rarely shrubs.  Example, carrot, radish and potato.	Plants whose life cycle runs for more than two seasons.  Example, guava, babul and palm trees.

## **Parts of a plant:-**

Shoot system :- The part of plant which grows above the soil.

Stem:-Gives rise to a number of branches that bear leaves It has nodes and internodes

### **Functions:-**

Provides support.

Bears important plant parts.

Helps in transportation of water and food.

Underground stems store food.

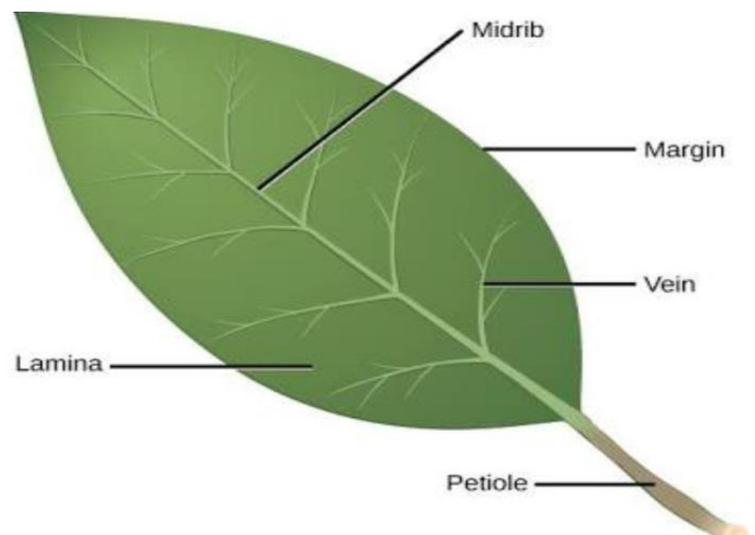
Thick and fleshy stems make food.

Stem modified into tendrils give extra support for plants.

Leaf:-Parts of leaf:-Petiole: Stalk of the leaf with which it is joined to the stem.

Leaf lamina: The flat green portion of the leaf.

Veins: The network of small, narrow, tube-like structures.



### **Functions:-**

Transpiration: Process of losing water by the leaves of a plant. Preparation of food by the process of photosynthesis.

**Flower:-**It is the reproductive organ of the plant.

Functions:-

Help in reproduction.

These become fruits that store food and seeds.

Modified flowers like cauliflower, broccoli are rich sources of vitamins.

Parts of flower:- The different parts of a flower are:-

**Pedicle:-** It is the stalk which attaches the flower to the stem.

**Sepals:-** At the base of the flowers small green leaf like structures called sepals. They protect the flower specially when it is bud.

**Petals :-** petals are brightly coloured leaf like structures present inside the sepals to attract insects.

**Stamen :-** These are long, thin and needle-like male organs. Consist of two parts:

**Anther:** The swollen tip of each stamen that encloses in it a small powdery substance called pollengrains.

**Filament:** Long stalk-like structure that joins the anther with thalamus.

**Carpel:-**It is a flask-shaped female organ in the centre of flower. Consists of three parts:

**Style:** Long, thin, tube-like structure which is swollen at the base.

**Stigma:** Small, round and sticky part of the carpel at the top of the style that traps the pollen grains.

**Ovary:** Swollen part of carpel that contains ovules.

**Root system:-** It is the underground portion of the plant:-

**Functions:-** Absorb water and nutrients from the soil.

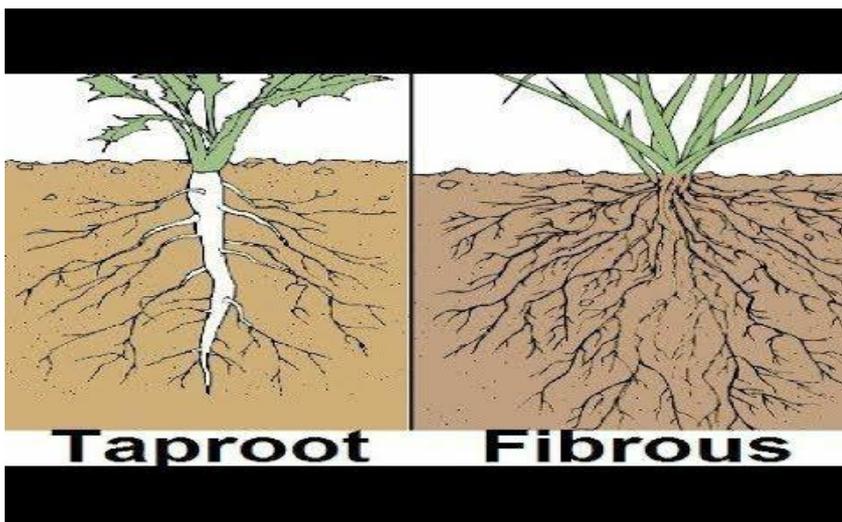
Help the plant to stand erect

Check soil erosion.

Store food.

Prop roots offer extra support.

**Types of Roots:-**



**I. Tap Root:-**Main primary root arises from lower end of the stem.

A number of tiny branches called secondary roots grow from this root.

Example, mustard, neem, rose etc

**II. Fibrous Root:-**A bunch of roots arises from the base of stem.

Example, wheat, maize, etc.

Venation:- the specific pattern made by the veins of the leaves.

a. Reticulate:- Arrangement of veins in a net like structure on both sides of midrib is known as reticulate venation

b. Parallel:- Parallel arrangement of veins on a leaf blade is known as parallel venation.

**Activity:- To see the longitudinal section of a flower.**

