



CHAPTER – 6

Physical and Chemical Changes

NOTES:

All the things around us do not remain same. They always change their form in one way or another. There are two types of changes in matter i.e. **Physical change and Chemical change.**

- Physical change is a change in which a substance changes in its physical properties such as shape, size, colour and state without any change in its properties of substance.
- Cutting of wood into pieces only change the shape and size of the wood and not in its property. Melting of ice to water changes only in its state of matter and not the property as water. After freezing, water change into ice again.
- Physical change may be reversible or not.
- In physical change no new substance is formed.
- Some examples of physical change are cutting a paper into pieces, boiling of water, melting of ice etc.
- Chemical change is a change in which a substance change its properties of substance and formed a new substance.
- Curd is a new substance formed from milk which is completely different in test, smell etc. from milk. Burning of wood produce charcoal, smoke, ash which is completely different from wood.
- Some examples of chemical change are burning of wax, photosynthesis, ripening fruits, formation of curd, fermentation of grapes, explosion of fire crackers etc.
- In chemical change one or more substance is formed.
- Chemical change is irreversible.
- Chemical changes are accompanied with heat, light, sound, change in smell, change in colour or formation of a gas.



➤ Difference between physical and chemical change

Physical Change	Chemical change
1. It is a change in shape, size, colour or state of substance. Eg. Cutting of wood	1. It is a change in its properties of substance and formed a completely new substance. Eg. Formation of curd
2. No new substance is formed.	2. One or more new substances are formed.
3. It may be reversible or not.	3. It is irreversible.

- Importance of physical changes in our daily life are, change in seasons, formation of water cycle, formation of ice etc.
- Importance of chemical changes in our daily life are digestions of food, decomposition of waste food to form manure, photosynthesis, medicines etc..
- Disadvantages of chemical changes in our daily are spoiling of foods, global warming, formation of acid rain, rusting of iron etc.
- The brownish layer deposited on an iron object after exposure to moist air is called rust.
- The process of depositing a brownish colour layer called rust on an iron nail (objects) after exposure to moisture for long is called rusting of iron.
- For rusting, presence of oxygen and water or water vapour is essential.
- Rusting can be prevented by preventing direct contact from oxygen or water or both with the iron objects or by coating a layers of a metal like chromium or zinc on iron objects.
- Galvanisation is a process of depositing a layer of zinc on iron.
- Galvanising on iron is cheaper than stainless steel, low maintance and it keeps the iron object without rusting for a longer period of time.
- Crystallization is a process by which a solid is formed from a solution.
- Ozone layer present in the atmosphere absorbs the harmful ultraviolet rays from the sun and protects the earth.

