

CHANGES AROUND US

INTRODUCTION

Change is a permanent part of our lives. A change could alter physical properties or chemical properties or both of the concerned matter. These changes may be observed by us at school, at home, in the playground in the garden or any other place. A change can bring about different kinds of effect in the things around us. Some of the effects brought about are permanent in nature, and hence, cannot be reversed. However, some effects are about in position, shape, size or state of the things. These effects are temporary in nature, and hence can be reversed.

REVERSIBLE AND IRREVERSIBLE CHANGES

A change which can be reversed by the conditions is called a reversible change.

Eg. Melting of ice, dissolving of salt in water

A change that cannot be reversed by reversing the condition is called an irreversible change.

Eg. Burning of paper, curdling of milk



dissolving salt in water—a reversible change



burning of paper—an irreversible change

PERIODIC AND NON-PERIODIC CHANGES

A change which is repeated after regular intervals of time is called a periodic change. Swinging of a pendulum, rising and setting of the sun at a given place, and change of seasons are some examples of periodic changes. A change which does not occur after regular intervals of time is called a non-periodic change. Most of the changes happening around us are non-periodic changes, occurrence of floods and cyclones are some of them.



swinging of a pendulum—a periodic change



occurrence of flood—a non-periodic change

NATURAL AND MAN-MADE CHANGES

A change that occurs naturally on its own is called a natural change. Eg. changing of season, occurrence of tides, eclipses. A man-made change is the one that occurs because of human activities. e.g. Changing the direction of flow of river by building a dam.

a dam.

occurrence of tides—
a natural changedeforestation—
a man-made change

SLOW AND FAST CHANGES

Some changes take place at a slow rate, such changes are called slow changes.

Eg. Growth of plant, rusting of iron Some change take place in a fraction of second, such changes are called fast changes

Eg. Occurance of lightning during thunderstorm, earthquakes.

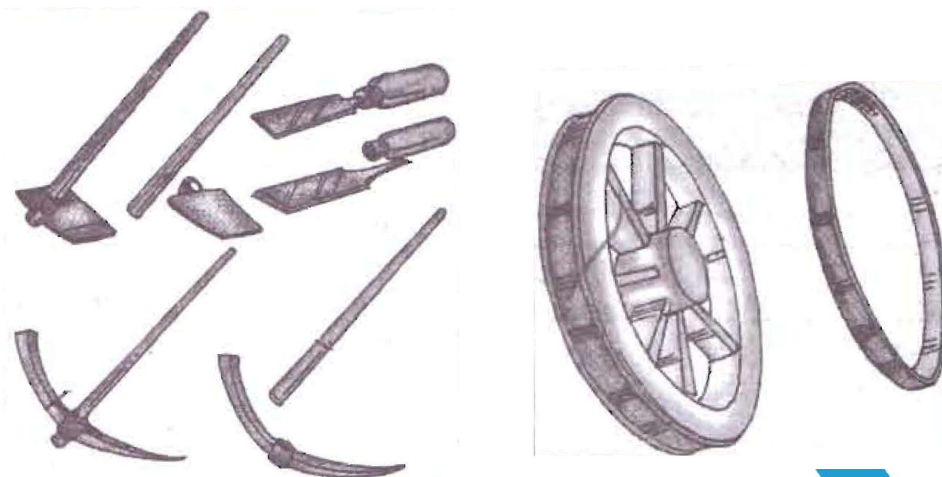


Growth of a plant—a slow change

Occurrence of earthquake—
a fast change

CHANGES CAUSED BY HEATING

- (1) Some objects simply get hot, but no other changes take place.
When you drink hot milk or coffee from a cup. you may feel that the cup however no change in the state of the cup take place.
- (2) Some object get hot and expand.
Eg. Metal key on heating got hot as well as increased in size.
- (3) Some object get hot and expand.
Eg. The candle is lighted it starts burning. Its shape and size also changed.
- (4) Some of the change their state.
Eg. Ice is heated it change into water and on further heating changes into steam. All these changes can be reverse.



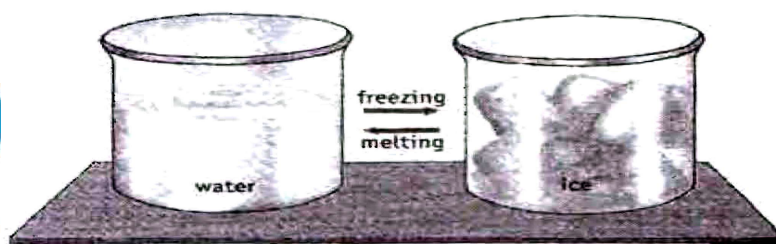
CHANGES CAUSED BY DISSOLVING

Substances, such as common salt, sugar, copper sulphate crystals etc. are soluble in water. During the process of dissolving a change is brought in the soluble substance. Equal amounts of all soluble substances do not dissolve in any fixed amount of water. However, with the rise in temperature of water, more amount of substance dissolves in it.

PHYSICAL AND CHEMICAL CHANGES)

Physical Changes :

Definition: A change which alters some specific physical property of matter, like its state, texture, magnetic or electrical conditions or its colour, without causing any change in the composition of its molecules, is called physical change. provided it can be reversed, if the cause producing the change is removed.



Freezing of water and melting of ice—
a physical change