

## 13. Changes- Physical and chemical

Q.1. Fill in the blanks.

(i) In our surrounding some change are happen naturally called..... .

Ans : Natural change

(ii) Change that take place in a short period of time called.....

Ans : Fast/Quick change

(iii) Changes that take places over a long period of time are called..... .

Ans : Slow change

(iv) ..... change means that can occur in a forward & reverse direction again & again.

Ans : Reversible changes

(v) No new substances is formed means..... .

Ans : Physical change

(vi)..... Change means one substances change into another substances.

Ans : Chemical

(vii) Process of dissolving is..... change.

Ans : Physical

## 1. Distinguish between the following.

### (a) Physical change and Chemical change

Ans :

Physical change	Chemical change
1. The properties of the original substances remain the same in the physical change.	1. The properties of the original substance alter in the chemical change.
2. Their original composition remains unchanged.	2. Their original composition changes.
3. The physical changes are reversible. e.g. Evaporation, boiling, dissolution etc,	3. The chemical changes are irreversible, e.g. Photosynthesis, corrosion.

### (b) Periodic change and Non-periodic change

Ans :

Periodic change	Non-periodic change
1. Changes occurring again and again after a definite interval of time are called periodic changes.	1. Changes not occurring again and again after a definite interval of time are called non-periodic changes.
2. There is constancy in periodic changes. e.g. High and low tide of the sea. movement of hands of clock.	2. There is no constancy in non-periodic changes. e.g. Breaking of storm

**(c) Natural Change and Man-made change.**

**Ans :**

Natural Change	Man-made change
1. The Change occurring automatically by natural cause is called natural change.	1. The changes induced by man are called man-made changes.
2. Most of the natural events are the examples of natural changes. e.g. Ripening of fruits.	2. Man-made changes are due to man's wish to satisfy his needs. e.g. Cutting down the trees.

**2. Under which different types can the following changes be classified ?**

**(a) Conversion of milk into yoghurt.**

**Ans : Chemical, Irreversible, Slow.**

**(b) Bursting of a cracker.**

**Ans : Chemical, Irreversible, Fast**

**(c) Occurrence of an earthquake.**

**Ans : Physical, Chemical, Irreversible, Natural.**

**(d) Revolution of the earth around the sun.**

**Ans : Periodic, Slow, Natural.**

**(e) Stretching of a spring**

**Ans : Physical, Reversible.**

**3. Give reasons.**

**(a) While purchasing canned food, its expiry date should be checked.**

**Ans :** Each item has some limit for shelf life. This time is mention on can when this time is expired then irreversible chemical change happen in food expired items are harmful for our health. therefore, while purchasing cannot food its expiry date should be checked.

**(b) An iron article should given a coat of paint.**

**Ans :** Iron article rusts naturally is called corrosion. When oxygen, moisture, vapours of chemicals air. are together mix then they react on iron that time, iron corrosion start. this action make unusable & weak. Therefore Iron article should be give coat of paints.

**(c) A wooden article should be polished.**

**Ans :** Wood is an organic substance. It is affected by fungus or termites. This change is natural and change into irreversible damage. When we polish the wood the natural changes slow down. Therefore a wooden articles should be polished.

**(d) Copper and brass utensils should be tinned.**

Ans : The metals like copper and brass gather a greenish layer due to show chemical changes. This is corrosion which happens due to oxygen, moisture and vapours of chemical in the air. For the prevention of such corrosion, copper and brass utensils are tinned. Moreover, the tinned utensils are safer for cooking.

**(e) A dry handkerchief gets wet at once on dipping in water, but it takes long for a wet handkerchief to dry.**

Ans : A dry handkerchief absorbs the water, once it is dipped into the water. This is a fast change. But drying such moist handkerchief is a slow process which occurs due to evaporation. Evaporation is the physical change which depends upon atmospheric temperature and humidity. It may therefore take long for drying a wet handkerchief.

**4. What will you take into account while identifying the following ?**

**(a) A physical change in a substance.**

Ans : It will be seen that whether the substance has changed its properties and composition. If both of these have remained unchanged then it is a physical change.

**(b) A chemical change in a substance.**

Ans : It will be seen that whether, the substance is changed in its properties. Whether the composition. of the substance is changed, whether the change is irreversible? If all these changes are taking place then it will be a chemical change.

5. Read the paragraph and note down the various types of changes it mentions.

It was nearing six o' clock in the evening. The sun was setting. A breeze was blowing leaves on the tree were shaking. Sahil was sitting in the courtyard, rolling balls of wet soil and shaping them into various toys. Then he felt hungry and went into the house. Mother made a dough from wheat flour and fried purees. While eating hot purees, his attention was drawn outside the window. It had started raining. There was lightning, too. Sahil was enjoying his dinner in the dim light.

Ans : (1) It was nearing six o' clock in the evening : (time-reversible, periodic )

(2) The sun was setting : (Sunset- Periodic, Reversible )

(3) A breeze was blowing : (Blowing of wind- physical, non periodic)

(4) Leaves on the tree were shaking : (movements due to wind- Physical, periodic)

(5) Sahil was sitting in the courtyard, rolling balls of wet soil and shaping them into various toys. (making toys of soil- Physical )

(6) Then he felt hungry and went into the house. (Hunger-Periodic)

(7) Mother made a dough from wheat flour and fried purees. (Frying-Physical, Irreversible)

(8) While eating hot purees, his attention was drawn outside the window. (Seeing randomly-Non-periodic)

(9) It had started raining. (Raining-Physical, Periodic if raining in specific season)

(10) There was lightning. (Lightning-Physical, Chemical, Fast)

6. Use your brain power !

(1) What kind of change is the falling of a tree in a storm?

Ans : The falling of a tree in a storm is a natural change.

(2) What kind of change is the conversion of milk into yoghurt?

Ans : Change is the conversion of milk into yoghurt is a natural chemical change.

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