

29/7/19

Chapter. 6

Physical and Chemical change

Notes:

1° Physical change :-

A change in which only the physical properties of a substance get changed and no new substance is formed is called a physical change.

2° Some more examples of physical changes :-

- (I) Stretching of a rubber band.
- (II) Spinning of a substance
- (III) Melting of wax
- (IV) Formation of clouds

3° Chemical change :-

A change in which new substance (s) with entirely different chemical composition and properties from the originally substance are formed is called a chemical change.

4° Some more examples of chemical change :-

- (I) Explosion of crackers producing heat, light and sound is a chemical change.
- (II) Digestion of food is also a chemical change.



5. Rusting of Iron:-

Iron objects, like iron nails, iron pipes, iron grills and iron railings, when kept in moist air for a few days, get covered with brown powdery substance called rust. This process is called rusting of iron.

6. Crystallisation:-

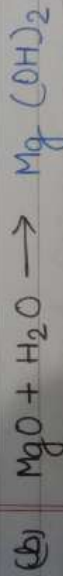
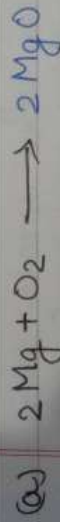
Crystallisation is the process of obtaining ~~from~~ solid crystals having definite geometrical shape.

Ques. / Ans.

• Short answer type I ques.

Q.1 What is crystallisation? (1m Note)

A.2 Complete the following chemical equations



Q.3 What is meant by rusting of iron?
(1m notes)

A.4 Why is explosion of crackers considered a chemical change?

Ans.4 Explosion of crackers produce heat, light and sound. ~~so that~~ chemical change produce new substance so that.



explosion of crackers considered a chemical change.

Q:5 Give two characteristics of a physical change.

Ans:5 (i) A physical change is generally reversible.

(ii) No overall energy change takes place.

• Short ans. type II ques.

Q:1 Define physical change. Why is melting of ice considered a physical change?

Ans:1 A change in which only the physical properties of a substance get changed and no new substance is formed is called a physical change. Melting of ice is considered a physical change because ice melt change into water and water cool change into ice so it is reversible and no new substance formed.

Q:2 Ram and Raheem are best friends. Raheem goes to Ram's house to celebrate Diwali. Both are bursting crackers. Suddenly, a fork falls on Raheem's arm. Ram immediately washes Raheem's hand and applies a cream for burn.

(a) Which type of change is ~~bursting~~ bursting of crackers?

(b) chemical change



(b) Do you think, bursting crackers is good for our environment?

(b) No, the bursting crackers is not good for our environment because it gets air pollution.

(c) Which value is shown by Ram here?

(c) The value is shown by Ram is true friendship and caring.

Q:3 What is chemical change? Give two examples of a chemical change. (4th notes)

Ans) Why does the cut surface of an apple turn brown in colour, when kept in open for some time?

(a) When we cut an apple for some and keep it in open for some time, the colour of the apple changes to brown. It is due to the formation of new substances by the action of oxygen (of air) on the acid present in the apple.

(b) Why is cutting of paper a physical change?

(b) It has not changed into something else. So cutting of a paper is a physical change.

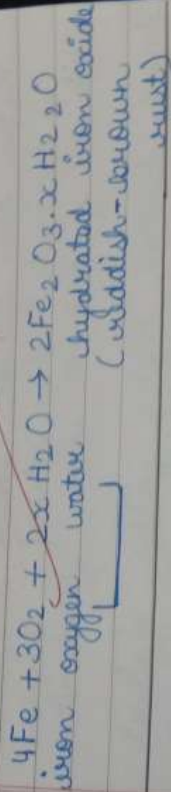


Q.5 State two conditions necessary for the rusting of iron objects. Also, write the chemical equation.

Ans Two conditions necessary for the rusting of iron are:

- (i) Presence of oxygen (of air)
- (ii) Presence of water or water vapour (moisture)

Chemical equation



• Long ans. / ques.

Q.1 Write the differences between physical and chemical changes.

Ans.1	S.No	Physical change	Chemical change
	1°	No new substance is formed	One or more new substance are formed
	2°	It is a temporary change	It is generally a permanent change
	3°	It is easily reversed by simple physical methods	It is generally irreversible
	4°	Only the physical properties of the substance are changed	Both the physical and chemical properties of the substance are changed



Q.2 How will you prepare crystals of copper sulphate?

Ans.2 We prepare crystals of copper sulphate follows these steps.

Step.1 Take about 100 ml of water in a beaker and add a few drops of dilute sulphuric acid to it. Place the beaker on a tripod stand and heat it.

Step.2 When it starts boiling add copper sulphate powder while stirring continuously with the help of a stirrer.

Step.3 Continue adding copper sulphate powder - we till no more powder can be dissolved.

Step.4 Filter the obtained solution to remove insoluble impurities. Collect the filtrate in a china dish.

Step.5 Allow the solution of copper sulphate to cool slowly. Leave the apparatus undisturbed for 24 hours.

Step.6 We observe blue crystals of copper sulphate in china dish.

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