

LIVING SCIENCE CLASS6 SOLUTION CHAPTER 6. CHANGES AROUND US

P. 64 Oral Questions For Formative Assessment

1. Chemical
2. No
3. They have different physical properties and their molecules are exactly the same. So, melting is a physical change.

P. 65 For Formative and Summative Assessment

A. 1. a 2. b 3. c 4. b 5. d 6. c 7. b 8. c

B. 1. true 2. true 3. physical change 4. physical change 5. irreversible 6. no 7. no 8, physical change

C.

1. Physical changes: tearing of paper

Chemical changes: burning of paper

Reversible changes: molten wax becomes solid again when cooled

Irreversible changes: cooking of food

2. Shaping of pots: Reversible change Baking of pot: irreversible change

3. On breaking a glass tumbler, no new substance is formed as the molecules of glass remain the same but in burning of a paper, smoke and gases are given out, that is, new substances are formed. Hence, breaking of a glass tumbler is a physical change whereas burning of paper is a chemical change.

4. Cooking of food is a chemical change. This is because the original molecules change to form new substances with different properties and this cannot be reversed.

5. No. Most physical changes are reversible.

6. Growth is a chemical change. This is because the substances that make up the cells in a body are different from the substances present in food, that is, new substances are formed.

D.1. Physical changes. The molecules of the substance remain exactly the same before and after the change.

No new substances are formed, For example, freezing of water.

Chemical changes: The molecules of the substances undergo changes to form molecules of new substances. New substances with different properties are formed. For example, burning of paper.

2. Reversible and irreversible changes. Reversible changes. Changes which can be made to occur in the opposite direction are reversible changes. For example, change of state, dissolving of sugar in water.

Irreversible changes: Changes which cannot be made to occur in the opposite directions are irreversible changes. For example, rusting of iron, burning of fire.

3. In a chemical reaction, the initial substances (reactants) react with each other to form new substances (products). For example, Washing soda + Lemon Carbon juice \rightarrow carbon dioxide

A chemical reaction has taken place between the reactants, washing soda and lemon juice. Carbon dioxide is one of the products. Other products are also formed.

4. If iron and sulphur are mixed, no chemical change occurs. But when the mixture is heated, it glows after some time and a black substance is formed. The black substance is a different compound with entirely different properties from those of iron and sulphur. So heating a mixture of iron and sulphur results in a chemical change.

5. The heat of the flame melts the wax. This is a physical change of wax. The liquid wax creeps up the wick by what is known as capillary action. The heat from the flame vaporizes the liquid wax. This is also a physical change. But when the wax vapour burns, it is a chemical change. The heat of the flame keeps melting the wax, thus shortening the candle. Some wax drips down and solidifies again on cooling. This solidification is also a physical change.

HOTS Questions

1. No, because on tearing a paper changes its shape and size but it remains paper. No new substance is formed. The molecules of paper remain the same.

2. No, cooking is a chemical change because it results in new substances being formed. On cooking the molecules that make up the potato undergo changes to form molecules of new substances.

3. No, it is a physical change because it does not involve any change in the chemical nature of the two substances involved. When sugar dissolves in water, sugar molecules are dispersed within the water, but the individual sugar molecules are unchanged.