



1. Classify the changes involved in the following processes as physical or chemical changes:

- (a) Photosynthesis
- (b) Dissolving sugar in water
- (c) Burning of coal
- (d) Melting of wax
- (e) Beating aluminium to make aluminium foil (f) Digestion of food

Answer:

- (a) Chemical change
- (b) Physical change
- (c) Chemical change
- (d) Physical change
- (e) Physical change
- (f) Chemical change

2. (a) Cutting a log of wood into pieces is a chemical change. (True/ False)

(b) Formation of manure from leaves is a physical change. (True/ False)

(c) Iron pipes coated with zinc do not get rusted easily. (True/ False)

(d) Iron and rust are the same substances. (True/ False)

(e) Condensation of steam is not a chemical change. (True/ False)

Answer:

(a) False

Correct statement: Cutting a log of wood into pieces is an irreversible physical change.

(b) False

Correct statement: Formation of manure from leaves is a chemical change.

(c) True

(d) False

Correct statement: Iron and rust are two different chemical substances.

(e) True

3. Fill in the blanks in the following statements:

(a) When carbon dioxide is passed through lime water, it turns milky due to the formation of _____.

(b) The chemical name of baking soda is _____.

(c) Two methods by which rusting of iron can be prevented are _____ and _____.

(d) Changes in which only _____ properties of a substance change are called physical changes.

(e) Changes in which new substances are formed are called _____ changes..

Answer: (a) calcium carbonate

(b) sodium hydrogen carbonate

(c) painting or greasing, galvanisation

(d) physical

(e) chemical

4. When baking soda is mixed with lemon juice, bubbles are formed with the evolution of a gas. What type of change is it? Explain.

Answer: The reaction between baking soda and lemon juice can be given as below:

Lemon juice + Baking soda → CO₂ (bubbles) + Other substances
(Citric acid) (Sodium hydrogen carbonate) (Carbon dioxide)

It is a chemical change

5. When a candle burns, both physical and chemical changes take place. Identify these changes. Give another example of a familiar process in which both the chemical and physical changes take place.

Answer: When a candle burns, both physical and chemical changes occur:

(i) Physical change: melting of wax, vapourisation of melted wax.

(ii) Chemical change: Burning of vapours of wax to give carbon dioxide, heat and light.

LPG is another example in which physical change occurs when LPG comes out of cylinder and is converted from liquid to gaseous state and a chemical change occurs when gas burns in air.

6. How would you show that setting of a curd is a chemical change?

Answer: We can say that setting of curd is a chemical change because we can not get the original substance, i.e., milk back and a new substance is formed with different taste, smell and other chemical properties.

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