

# Quiz – Changes of Matter

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## MULTIPLE CHOICE QUESTIONS

- Which of the following is a physical change?
  - Rusting of iron
  - Combustion of magnesium ribbon
  - Burning of candle
  - Melting of wax
- Which of the following is a chemical change?
  - Twinkling of stars
  - Cooking of vegetables
  - Cutting of fruits
  - Boiling of water
- Which of these is a chemical change?
  - Photosynthesis
  - mixing sugar in water
  - mixing salt in water
  - cutting of wood
- The necessary condition for rusting is
  - presence of carbon dioxide
  - presence of hydrogen
  - presence of air and water
  - presence of nitrogen
- Which of these is not a method for preventing rusting in metals?
  - painting
  - alloying
  - galvanizing
  - watering
- Combustion takes place in the presence of
  - carbon dioxide
  - nitrogen
  - copper
  - oxygen
- The activity which shows both physical and chemical changes is
  - burning of a candle
  - photosynthesis by plants
  - melting of butter
  - melting of ice
- The iron compound that forms due to the reaction of iron with water and oxygen is known as
  - rust
  - alloy
  - tarnish
  - both a and b
- \_\_\_\_\_ is an alloy of iron and carbon
  - Stainless steel
  - Steel
  - Brass
  - Bronze

10. Which of these is an irreversible physical change?
  - a) rusting of iron
  - b) freezing of water
  - c) a double decomposition reaction
  - d) breaking of a glass tumbler
11. An arrow pointing downwards in a chemical reaction shows
  - a) evolution of gas
  - b) formation of precipitate
  - c) oxidation
  - d) displacement
12. A chemical reaction in which heat is given out is called
  - a) exothermic reaction
  - b) endothermic reaction
  - c) decomposition reaction
  - d) neutralization reaction
13. What happens in a displacement reaction?
  - a) A more reactive element replaces a less reactive element.
  - b) A less reactive element replaces a more reactive element.
  - c) An element replaces one which is equally reactive.
  - d) Any element can replace any other element with no relation to reactivity.
14. An oxidation reaction involves addition of
  - a) oxygen only
  - b) hydrogen only
  - c) oxygen or removal of hydrogen
  - d) hydrogen or removal of oxygen
15. In which of the following reaction is there only one reactant?
  - a) combination reaction
  - b) decomposition reaction
  - c) single displacement reaction
  - d) double displacement reaction
16. If A is more reactive than B, which of the following is true?
  - a) A will replace B from a salt of B.
  - b) B will replace A from a salt of A.
  - c) Both can displace each other from their salts.
  - d) Both cannot displace each other from their salts.

**QUESTION ANSWER**

1. The process of depositing zinc on iron to prevent rusting is called \_\_\_\_\_.
2. When two soluble substances in solution react to give an insoluble substance, a \_\_\_\_\_ is formed.
3. Heat is absorbed in an \_\_\_\_\_ reaction.
4. In which city do you expect rusting to be a greater problem - in Delhi or in Mumbai? Why?
5. LPG (liquefied petroleum gas) in a gas cylinder is in the form of a liquid. Which physical and chemical changes occur when it comes out of the cylinder and burns?
6. When a soda water bottle is opened, a gas is released. Does a chemical reaction occur? Explain.
7. Why should we not put stainless steel spoons in pickle jars?
8. Fill in the blanks in the following statements using the words given in the box.

rusted, colorful, substance, chemical, physical, reversible,

iron oxide, object

- a) Making sugar solution is a \_\_\_\_\_ change.
- b) A physical change is generally \_\_\_\_\_.
- c) Grinding of wheat grain changes its size. It is a \_\_\_\_\_ change.
- d) Iron benches kept in lawns and gardens get \_\_\_\_\_. It is a \_\_\_\_\_ change because a new \_\_\_\_\_ is formed.
9. Classify the following processes into physical or chemical changes:
- a) Beating of aluminium metal to make aluminium foil.
  - b) Digestion of food
  - c) Cutting of a log of wood into pieces
  - d) Burning of crackers.
10. Write word equations for two chemical reactions with the help of materials given in the box.

Air, copper sulphate, iron, vinegar, iron oxide, carbon dioxide,  
iron sulphate, copper, lime water, water

11. Explain the following:
- a) Lime water turns milky on passing carbon dioxide gas into it.
  - b) Bubbles are produced when acetic acid is added to a solution of sodium hydrogen carbonate.
12. If you leave a piece of iron in the open for a few days, it acquires a film of brownish substance, called rust.
- a) Do you think rust is different from iron?
  - b) Can you change rust back into iron by some simple method?
  - c) Do you think formation of rust from iron is a chemical change?
  - d) Give two other examples of a similar type of change.

13. A student took a solution of copper sulphate in a beaker and put a clean iron nail into it and left it for about an hour.
- What changes do you expect?
  - Are these changes chemical in nature?
  - Write a word equation for the chemical change, if any.
14. Is the popping of popcorn a physical or chemical change? Justify.

## Answer

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### MULTIPLE CHOICE QUESTIONS

- d
- b
- a
- c
- d
- d
- a
- a
- b
- d
- b
- a
- a
- c
- b
- a

### QUESTION ANSWER

- Galvanizing
- Precipitate
- Endothermic
- Two conditions are required for rust formation: oxygen and moisture content in the atmosphere. The climate of Delhi is hot and dry, whereas the climate of Mumbai is humid. Hence, rusting is a greater problem in Mumbai because there is a greater presence of moisture and oxygen in the atmosphere.

