

NCERT Solution
Metals and Non-Metals

QUESTIONS FROM TEXTBOOK

Q.1. Which of the following can be beaten into thin sheets?

- (a) Zinc (b) Phosphorus (c) Sulphur (d) Oxygen

Ans. (a) Zinc.

Q.2. Which of the following statements is correct?

- (a) All metals are ductile. (b) All non-metals are ductile.
(c) Generally, metals are ductile. (d) Some non-metals are ductile.

Ans. (c) Generally metals are ductile.

Q.3. Fill in the blanks.

- (a) Phosphorus is a very non-metal.
(b) Metals are conductors of heat and
(c) Iron is reactive than copper.
(d) Metals react with acids to produce gas.

Ans. (a) reactive (b) good, electricity (c) more (d) hydrogen

Q.4. Mark 'T' if the statement is true and 'F' if it is false.

- (a) Generally, non-metals react with acids.
(b) Sodium is a very reactive metal.
(c) Copper displaces zinc from zinc sulphate solution.
(d) Coal can be drawn into wires.

Ans. (a) F (b) T (c) F (d) F.

Q.5. Some properties are listed in the following Table. Distinguish between metals and non-metals on the basis of these properties.

Properties	Metals	Non-metal
1. Appearance		
2. Hardness		
3. Malleability		
4. Ductility		
5. Heat Conduction		

Ans.

Metals and Non	Metals	Metals and Non
1. Appearance	Lustrous	Non-lustrous
2. hardness	Hard except sodium and potassium	Generally soft except diamond
3. Malleability	Generally malleable	Non-melleable
4. Ductility	Generally ductile	non-ductile
5. Heat conduction	Good conductors	Poor conductors
6. Conduction of Electricity	Good conductors	Poor conductors

Q.6. Give reasons for the following.

- Aluminium foils are used to wrap food items.
- Immersion rods for heating liquids are made up of metallic substances.
- Copper cannot displace zinc from its salt solution.
- Sodium and potassium are stored in kerosene.

- Ans.
- Aluminium is malleable, soft and does not react with food items, so it is used to wrap food items.
 - Metals are good conductor of heat and electricity, so immersion rods are made up of metallic substances.
 - Copper is less reactive than zinc, so it can not displace zinc from its salt solution.
 - Sodium and Potassium are very reactive; they react with air and water, so they are stored in kerosene.

Q.7. Can you store lemon pickle in an aluminium utensil? Explain.

- Ans. No, we cannot store the lemon pickle in aluminium utensil because aluminium is a metal and lemon is acidic. The acids react with metals to give hydrogen which would spoil the food and makes it unfit to use.

Q.8. Match the substances given in Column A with their uses given in Column B.

Column A	Column B
(i) Gold	(a) Thermometers
(ii) Iron	(b) Electric wire
(iii) Aluminium	(c) Wrapping food
(iv) Carbon	(d) Jewellery
(v) Copper	(e) Machinery
(vi) Mercury	(f) Fuel

Ans.

Column A	Column B
(i) Gold	(d) Jewellery
(ii) Iron	(e) Machinery
(iii) Aluminium	(c) Wrapping food
(iv) Carbon	(f) Fuel
(v) Copper	(b) Electric wire
(vi) Mercury	(a) Thermometers

Q.9. What happens when

- (a) Dilute sulphuric acid is poured on a copper plate?
 (b) Iron nails are placed in a copper sulphate solution?

Write word equations of the reaction involved.

Ans. (a) When dilute sulphuric acid is poured on a copper plate, copper reacts with acid to give copper sulphate and hydrogen.

Sulphuric acid + Copper → Copper sulphate + Hydrogen

(b) When iron nails are placed in copper sulphate solution, displacement reaction takes place in which iron displaces copper.

Copper sulphate + Iron → Iron sulphate + Copper

The blue colour turns into green.

Q.10. Saloni took a piece of burning charcoal and collected the gas evolved in test tube.

- (a) How will she find the nature of the gas?
 (b) Write down word equations of all the reactions taking place in this process.

Ans. (a) When charcoal burnt then carbon dioxide gas is formed. This gas turns lime water into milky substance. It can also be tested by red and blue litmus. The solution of gas turns blue litmus into red so it is acidic.

(b) Carbon + Oxygen → Carbon dioxide

Carbon dioxide + Lime water → Milky

Q.11. One day Reeta went to a jewellers shop with her mother. Her mother gave an old gold jewellery to the goldsmith to polish. Next day when they brought the jewellery back, they found that there was a slight loss in its weight. Can you suggest a reason for the loss in weight?

Ans. Gold is a metal which is washed in acidic solution. Some gold dissolves in acid to form oxide. This causes the loss of gold in the form of gold oxide. In this process certain amount of gold is lost to the acidic solution.