

Very Short Answer Questions

Q. 1. Name two soft metals which can be cut with a knife. [NCERT Exemplar]

Ans. (a) Sodium

(b) Potassium

Q. 2. Which non-metal is essential for our life and all living beings inhale it during breathing? [NCERT Exemplar]

Ans. Oxygen

Q. 3. Name two major non-metals which are present in fertilisers and enhance the growth of plants. [NCERT Exemplar]

Ans. (a) Nitrogen

(b) Phosphorus

Q. 4. Which non-metal is used to disinfect water? [NCERT Exemplar]

Ans. Chlorine

Q. 5. A purple coloured non-metal forms a brown solution in alcohol which is applied on wounds as an antiseptic. Name the non-metal. [NCERT Exemplar]

Ans. Iodine

Q. 6. Zinc sulphate forms a colourless solution in water. Will you observe any colour on adding copper turning in it? [NCERT Exemplar]

Ans. No, because displacement reaction does not take place.

Q. 7. Define malleability.

Ans. The property of metals by which they can be beaten into thin sheets.

Q. 8. What is ductility?

Ans. The property of metal by which it can be drawn into wires is called ductility.

Q. 9. Why sodium metal is kept in kerosene oil?

Ans. Sodium metal is very reactive, it reacts vigorously with oxygen and water and catches fire, so it is stored in kerosene oil.

Q. 10. What is an alloy?

Ans. Alloy is a homogeneous mixture of two or more metals, one metal or one non-metal.

Q. 11. Why are bells made of metals? [NCERT Exemplar]

Ans. Metals are sonorous.

Q. 12. Which liquid metal is used for making thermometers? [NCERT Exemplar]

Ans. Mercury

Q. 13. Which of the following metals can displace the other two metals from their salt solutions? [NCERT Exemplar]

Zinc, Iron, Copper

Ans. Zinc

Short Answer Questions

Q. 1. Paheli bought a statue made of copper. To her surprise it acquired a dull green coating after a couple of months. Explain the reason. [NCERT Exemplar]

Ans. The green material is a mixture of copper hydroxide and copper carbonate formed due to reaction of copper with moist air (water, oxygen and carbon dioxide).

Q. 2. In the figure given below you find that the bulb glows when an iron nail is placed between two ends of wire. Complete the following sentences on the basis of this fact. [NCERT Exemplar]



(i) _____ is a metal.

(ii) Metals are good _____ of electricity.

Ans. (i) Iron

(ii) Conductors

Q. 3. If in the above figure iron nail is replaced by a wooden stick, will the bulb glow or not? Justify your answer. [NCERT Exemplar]

Ans. The bulb will not glow as wood is not a good conductor of electricity.

Q. 4. Paheli prepared a blue coloured solution of copper sulphate in beaker A and placed an iron nail in it. Boojho prepared a yellowish green solution of ferrous sulphate in beaker B and placed a copper wire in it. What changes will they observe in the two beakers after an hour? [NCERT Exemplar]

Ans. In beaker A, a reddish brown layer of copper will deposit on the iron nail and the blue coloured solution will become yellowish green. On the other hand, no change is observed in beaker B.

Q. 5. A doctor prescribed a tablet to a patient suffering from iron deficiency. The tablet does not look like iron. Explain. [NCERT Exemplar]

Ans. The tablet is not made of iron metal, instead it contains a salt of iron.

Long Answer Questions

Q. 1. Some of the following statements are incorrect. Find the incorrect statements and correct them. [NCERT Exemplar]

- a. The property of metals by virtue of which they can be drawn into wires is called ductility.
- b. Metals are good conductors of electricity but poor conductors of heat.
- c. Articles made of metals produce ringing sound when struck hard.
- d. Oxides of non-metals and metals are acidic in nature.
- e. A less reactive metal replaces a more reactive metal from its salt solution in water.

Ans. Statements (b), (d) and (e) are not correct.

(b) Metals are good conductors of electricity and also good conductors of heat.

(d) Oxides of non-metals are acidic in nature and oxides of metals are basic in nature.

(e) A more reactive metal replaces a less reactive metal from its salt solution in water.

Q. 2. Iron is more reactive than copper. Can you write an activity to show this? [NCERT Exemplar]

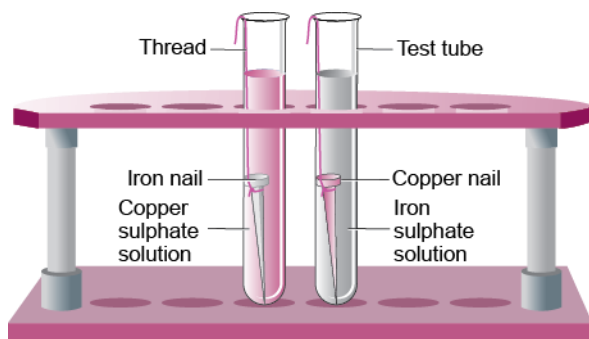
Ans. Set up the two test tubes as shown in the figure.

Take a clean copper nail and an iron nail.

Place the copper wire in a solution of iron sulphate and the iron nail in a solution of copper sulphate.

Write your observations after sometime.

In which test tube do you find that a reaction has occurred?



You will observe that the reaction has occurred in the test tube containing iron nail and copper sulphate solution. Iron takes the sulphate away from copper. You see that a reaction takes place and copper is left by itself. Now, we can say that iron has displaced copper from copper sulphate.

Copper sulphate + Iron \rightarrow Iron sulphate + Copper

In such a reaction, the more reactive metal displaces the less reactive metal. Thus, the above activity shows that iron is more reactive than copper.

Q. 3. Fill in the blanks to complete the following paragraph.

The name of the product formed in the reaction of sulphur and _____ is sulphur dioxide gas. When sulphur dioxide is dissolved in _____, sulphurous acid is formed. The sulphurous acid turns _____ litmus paper to _____. Generally oxides of _____ are acidic in nature. After completing the paragraph write two questions which you can raise on the basis of this information.

Ans. Oxygen, water, blue, red, non-metals. Questions may be

- a. Which gas is formed when sulphur reacts with oxygen?
- b. What is the nature of oxides of non-metals?

Hots (Higher Order Thinking Skills)

Q. 1. An element X burns in air to form an oxide. This oxide neutralises dilute sulphuric acid to form a salt. Is X a metal or a non-metal?

Ans. The oxide of element X neutralises acid, it means it is a basic oxide. So, X is a metal because the oxides of metals are basic in nature.

Q. 2. Do you think iron is present in our body? If yes, where?

Ans. About 70% of our body's iron is found in red blood cells of our blood called haemoglobin and in muscle cells called myoglobin.

Q. 3. Discuss the role of magnesium in plants.

Ans. Magnesium has important role in photosynthesis because it forms the central atom of chlorophyll. Plants begin to degrade the chlorophyll in old leaves without sufficient amounts of magnesium.