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Worksheet: Metals and Non-metals

1. What type of oxides are formed when non-metals combine with oxygen?
2. Food cans are coated with tin and not with zinc because (a) zinc is costlier than tin. (b) zinc has a higher melting point than tin. (c) zinc is more reactive than tin. (d) zinc is less reactive than tin.
3. Which metals do not corrode easily?
4. What are amphoteric oxides? Give two examples of amphoteric oxides.
5. In the electrolytic refining of a metal M, what would you take as the anode, the cathode and the electrolyte?
6. Explain the meanings of malleable and ductile
7. Which gas is produced when dilute hydrochloric acid is added to a reactive metal? Write the chemical reaction when iron reacts with dilute H■SO■.
8. What chemical process is used for obtaining a metal from its oxide?
9. What would you observe when zinc is added to a solution of iron(II) sulphate? Write the chemical reaction that takes place.
10. You must have seen tarnished copper vessels being cleaned with lemon or tamarind juice. Explain why these sour substances are effective in cleaning the vessels.
11. Give reasons (a) Platinum, gold and silver are used to make jewellery. (b) Sodium, potassium and lithium are stored under oil. (c) Aluminium is a highly reactive metal, yet it is used to make utensils for cooking. (d) Carbonate and sulphide ores are usually converted into oxides during the process of extraction.
12. State two ways to prevent the rusting of iron.
13. Why do ionic compounds have high melting points?
14. Give reasons why copper is used to make hot water tanks and not steel (an alloy of iron).
15. Differentiate between metal and non-metal on the basis of their chemical properties.
16. Name two metals which will displace hydrogen from dilute acids, and two metals which will not.
17. Why is sodium kept immersed in kerosene oil?
18. Write the electron-dot structures for sodium, oxygen and magnesium.

19. A man went door to door posing as a goldsmith. He promised to bring back the glitter of old and dull gold ornaments. An unsuspecting lady gave a set of gold bangles to him which he dipped in a particular solution. The bangles sparkled like new but their weight was reduced drastically. The lady was upset but after a futile argument the man beat a hasty retreat. Can you play the detective to find out the nature of the solution he had used?

20. An element reacts with oxygen to give a compound with a high melting point. This compound is also soluble in water. The element is likely to be (a) calcium (b) carbon (c) silicon (d) iron.