

Learnzy Academy

Worksheet: Metals and Non-metals

1. State two ways to prevent the rusting of iron.
2. What are alloys?
3. What are amphoteric oxides? Give two examples of amphoteric oxides.
4. Differentiate between metal and non-metal on the basis of their chemical properties.
5. Name two metals which will displace hydrogen from dilute acids, and two metals which will not.
6. What would you observe when zinc is added to a solution of iron(II) sulphate? Write the chemical reaction that takes place.
7. Name two metals which are found in nature in the free state.
8. Which of the following pairs will give displacement reactions? (a) NaCl solution and copper metal (b) MgCl₂ solution and aluminium metal (c) FeSO₄ solution and silver metal (d) AgNO₃ solution and copper metal
9. 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.
10. Why is sodium kept immersed in kerosene oil?
11. Why do ionic compounds have high melting points?
12. Write equations for the reactions of (i) iron with steam (ii) calcium and potassium with water
13. Write the electron-dot structures for sodium, oxygen and magnesium.
14. Define the following terms. (i) Mineral (ii) Ore (iii) Gangue
15. Show the formation of Na₂O and MgO by the transfer of electrons.
16. Which metals do not corrode easily?
17. 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.
18. What chemical process is used for obtaining a metal from its oxide?
19. Give an example of a metal which (i) is a liquid at room temperature. (ii) can be easily cut with a knife. (iii) is the best conductor of heat. (iv) is a poor conductor of heat.

20. 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?