



Acids, Bases, and Salts

Grade 10

Worksheet

Multiple Choice Questions

- Which of the following acids is present in sour milk?
 - Glycolic acid
 - Oxalic acid
 - Lactic acid
 - Citric acid
- Which of the following statements is not correct?
 - All metal carbonates react with acid to give salt, water, and carbon dioxide
 - All metal oxides react with water to give salt and acid
 - Some metals react with acids to give salt and hydrogen
 - Some non-metal oxides react with water to form an acid
- Which of the following statements is incorrect about bases?
 - Bases are bitter in taste
 - They are soapy to touch
 - They are corrosive in nature
 - All bases are alkali.
- Mixing of acid or base with water results in in the concentration of ions per unit volume.
 - Decreases
 - Increases
 - No change
 - Reverse charge
- What is pH?
 - The positive logarithm of the hydroxide ion concentration
 - The positive logarithm of the hydrogen ion concentration
 - The negative logarithm of the hydroxide ion concentration
 - The negative logarithm of the hydrogen ion concentration
- Which of the following statements is correct about an aqueous solution of an acid and a base?
 - Higher the pH, stronger the acid.
 - Higher the pH, weaker the acid.
 - Lower the pH, stronger the base.

4. Lower the pH, weaker the base.
- (a) 1 and 3 (b) 2 and 3 (c) 1 and 4 (d) 2 and 4
7. The chemical formula of washing soda is
- (a) NaHCO_3 (b) $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$
(c) CaOCl_2 (d) NaOH
8. Baking soda is a mixture of
- (a) Sodium carbonate and acetic acid
(b) Sodium carbonate and tartaric acid
(c) Sodium hydrogen carbonate and tartaric acid
(d) Sodium hydrogen carbonate and acetic acid
9. What happens, when a solution of an acid is mixed with a solution of a base in a test tube?
1. The temperature of the solution increases.
2. The temperature of the solution decreases.
3. The temperature of the solution remains the same.
4. Salt formation takes place.
- (a) Only 1 (b) 1 and 3 (c) 2 and 3 (d) 1 and 4
10. Which of the following salts does not contain water of crystallization?
- (a) Blue vitriol
(b) Baking soda
(c) Washing soda
(d) Gypsum

Answer the following

11. Name the natural source of each of the following acid
- (i) Citric acid
(ii) Oxalic acid
(iii) Lactic acid
(iv) Tartaric acid
12. A student detected the pH of four unknown solution A, B, C and D as follows 11, 5, 7 and 2. Predict the nature of the solution.
13. How will you test for the gas which is liberated when hydrochloric acid reacts with an active metal?
14. (a) Write the name given to bases that are highly soluble in water. Give an example.
(b) How is tooth decay related to pH? How can it be prevented?

(c) Why does bee sting cause pain and irritation? Rubbing of baking soda on the sting area gives relief. How?

15. A white powder is added while baking bread and cakes to make them soft and fluffy. Write the name of the powder. Name its main ingredients. Explain the function of each ingredient. Write the chemical reaction taking place when the powder is heated during baking.
16. A student dropped a few pieces of marble in dilute hydrochloric acid, contained in a test tube. The evolved gas was then passed through lime water. What change would be observed in lime water? What will happen if an excess of gas is passed through lime water? With the help of balanced chemical equations for all the changes explain the observations.
17. 15 mL of water and 10 mL of Sulphuric acid are to be mixed in a beaker
 - (i) State the method that should be followed with reason.
 - (ii) What is this process called?
18. . Choose strong acids and weak acids from the following: CH_3COOH , H_2SO_4 , H_2CO_3 , HNO_3
19. A white coloured powder is used by doctors for supporting fractured bones. (a) Write chemical name and formula of the powder. (b) When this white powder is mixed with water a hard solid mass is obtained. Write balanced chemical equation for the change.
20. How will you test for the gas which is liberated when hydrochloric acid reacts with an active metal?
21. Chlorine gas was prepared using electrolysis of brine solution. Write the chemical equation to represent the change. Identify the other products formed in the process and give one application of each.