

Biology Worksheet Grade IX

Is matter around us pure?

1. What is chemically a pure substance? How would you test the purity of a given substance?
2. Define the following terms:
 - a. True solution
 - b. Solvent
 - c. Solute
 - d. Solubility
3. Differentiate between a saturated and unsaturated solution. How would you test whether a given solution is saturated or not?
4. When a ray of light passes through a solution, it is not visible. Explain
5. What is the difference between aqueous and non-aqueous solution? Give an example each.
6. 40g of sugar is dissolved in 250ml of water. Calculate the concentration of the solution.
7. What is colloidal solution? How is it different from a true solution? Identify the colloidal solution from the following:
Copper sulphate solution, vinegar, blue ink, milk of magnesia.
8. Differentiate between true solution, suspension and colloidal solution based on Tyndall Effect and particle size.
9. How would you separate the components of a mixture containing Kerosene, common salt and sand? State in brief.
10. What kind of mixture the atmospheric air is? Describe in brief the steps involved in obtaining liquid oxygen from air.
11. Give reasons:
 - a. Crystallization technique is better than simple evaporation.
 - b. Fractionating column with beads is used for fractional distillation process.
12. While diluting a solution of salt in water a student by mistake added acetone (boiling point 56°C). What technique can be employed to get back the acetone? Justify your choice.
13. You are given two samples of water labeled as 'A' and Sample 'A' boils at 100°C and sample 'B' boils at 102°C . Which sample of water will not freeze at 0°C ? Comment.
14. Sucrose (sugar) crystals obtained from sugarcane and beet root are mixed together. Will it be a pure substance or a mixture? Give reasons for the same.
15.
 - a. Air is a mixture not compound. Give 3 reasons to support the statement.
 - b. Water is a compound not a mixture. Give 3 reasons to support the statement.
16. A child eats chocolate and digests it. In doing so, some physical and chemical changes take place. Identify the changes with reasons.