THE VILLAGE
INTERNATIONAL SCHOOL
"We Nurture Dreams"

Is Matter Around Us Pure

Grade IX

Question Bank

Answer the following questions

1. What is meant by a substance?
2. List the points of difference between homogeneous and heterogeneous mixtures.
3. Differentiate between homogeneous and heterogeneous mixtures with examples.
4. How are sol, solution, and suspension different from each other?
5. To make a saturated solution, 36 g of sodium chloride is dissolved in 100 g of water at 293 K. Find its concentration at this temperature.
6. Classify the following as chemical or physical changes:
   • cutting of trees,
   • melting of butter in a pan,
   • rusting of almirah,
   • boiling of water to form steam,
   • passing of electric current, through water and the water breaking down into hydrogen and oxygen gases,
   • dissolving common salt in water,
   • making a fruit salad with raw fruits
   • burning of paper and wood.

7. Write the steps you would use for making tea.
   Use the words solution, solvent, solute, dissolve, soluble, insoluble, filtrate, and residue.
8. Explain the following giving examples.
   (a) Saturated solution
   (b) Pure substance
   (c) Colloid
   (d) Suspension
9. Classify each of the following as a homogeneous or heterogeneous mixture.
   soda water, wood, air, soil, vinegar, filtered tea.
10. How would you confirm that a colourless liquid given to you is pure water?
11. Which of the following materials fall in the category of a “pure substance”?
    (a) Ice
    (b) Milk
    (c) Iron
    (d) Hydrochloric acid
    (e) Calcium oxide
    (f) Mercury

(g) Brick
(h) Wood
(i) Air

12. Identify the solutions among the following mixtures.
    (a) Soil
    (b) Sea water
    (c) Air
    (d) Coal
    (e) Soda water
13. What is the Tyndall effect?
14. Which of the following will show the "Tyndall effect"?
    (a) Salt solution
    (b) Milk
    (c) Copper sulphate solution
    (d) Starch solution
15. Classify the following into elements, compounds, and mixtures.
    (a) Sodium
    (b) Soil
    (c) Sugar solution
    (d) Silver
    (e) Calcium carbonate
    (f) Tin
    (g) Silicon
    (h) Coal
    (i) Air
    (j) Soap
    (k) Methane
    (l) Carbon dioxide
    (m) Blood
16. Which of the following are chemical changes?
    (a) Growth of a plant
    (b) Rusting of iron
    (c) Mixing of iron filings and sand
    (d) Cooking of food
    (e) Digestion of food
    (f) Freezing of water
    (g) Burning of a candle
17. What is the general name of the materials which contain at least two pure substances and show the properties of their constituents?
18. Which of the following are not compounds?
    Chlorine gas, Potassium chloride, Iron powder, Iron sulphide, Aluminium foil, Iodine vapour, Graphite, Carbon monoxide, Sulphur powder, Diamond