**Chapter3**

 **Nature of Matter**

1. Look around carefully in your house and make a list of at least 10 materials in your house. After making the list classify the material as natural and synthetic materials.
2. What is classification? Why do we need classify the materials around us?
3. All the things around us are made up of matter, justify.
4. When I open a bottle of coke, for some time we are able to see bubbles coming out of it but after a while no bubbles come out of the bottle. Suggest why this happens.
5. What will happen when you add mustard oil to water?
6. If we have glass bowl full of water and when we add few crystals of potassium permanganate to the water, we see the pink color slowly spreads in the water. Explain why this happens.
7. Name the three groups in which matter is classified on the basis of physical state.
8. Define the following materials
9. Man –made material
10. Matter
11. Opaque materials
12. Diffusion
13. Saturated solution
14. Classification
15. Draw a diagram showing arrangement of particles in three states of matter.
16. Complete the given statements
17. The materials which are prepared by man are called \_\_\_\_\_\_\_\_\_\_or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
18. \_\_\_\_\_\_\_\_\_ is something which has \_\_\_\_\_\_\_\_\_ and which occupies space.
19. In solids, the particles are very\_\_\_\_\_\_\_\_\_\_\_\_ with each other and can not move.
20. The property of material to allow light to pass through it is called \_\_\_\_\_\_\_\_\_\_\_.
21. Materials are known to differ from one another in terms of their \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
22. \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_ are examples of transparent material.
23. Materials that are \_\_\_\_\_\_\_\_\_\_\_\_ than water generally float over it.
24. The pebbles \_\_\_\_\_\_\_\_ in water because are \_\_\_\_\_\_\_\_\_\_\_ than water.
25. Solids do not \_\_\_\_\_\_\_\_\_ with each other because their particles are held tightly and cannot move freely.
26. The maximum amount of substance that can be dissolved in a given volume of water is known as\_\_\_\_\_\_\_\_\_\_\_\_ of that substance in water.
27. On increasing the temperature of solution, the solubility of a substance generally\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
28. Soda water is prepared by dissolving \_\_\_\_\_\_\_\_\_\_\_\_ gas in water.
29. The solubility of gas in water \_\_\_\_\_\_\_\_\_\_\_ with increase in its \_\_\_\_\_\_\_\_\_\_\_.
30. Mixing of particles of two materials on their own is known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_,
31. Give reasons
32. Solids have definite shape and volume.
33. Black board and thick plastic sheet are opaque material.
34. Ice pieces float in water.
35. Solids diffuse slowly into liquids.
36. Oxygen is used by aquatic animals to breathe.
37. Mustard oil forms layer on water when added to water.
38. Complete the given table

|  |  |  |  |
| --- | --- | --- | --- |
|  S.N  | Physical State of matter | Arrangement of particles and their movement | Shape and Volume |
|  1 | Solid |  | Fixed shape and definite volume |
|  2 |  | Particles are less tightly packed and can move a little | Definite volume and no fixed shape |
|  3 | Gases |  | No fixed shape nor definite volume |

1. Complete the flow chart

Properties of matter

Dissolution

1. Differentiate a transparent material from opaque material.
2. Can all liquids dissolve in all water? Explain this with help of an experiment.
3. You are given a list of material glass, water, iron piece, black board, polythene and thick plastic sheet and wood. Classify the given material in two categories that is transparent and opaque material.
4. When do we say material can be dissolved?
5. Why do liquid diffuse into each other quite slowly?
6. Sand and salt do not diffuse into each other, why?
7. How is saturated solution made?
8. How does solubility vary with temperature?
9. If we burn the incense stick in one corner of the room, how does the fragrance of the incense spreads in the whole room?
10. Carefully look around your house and make a list of 4 substances that are soluble and insoluble in water.