CHENNAI PUBLIC SCHOOL

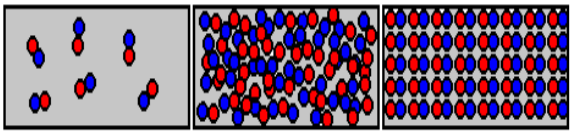
◈ Anna Nagar ◈ Chennai -600 101

SCIENCE

Class	IX	CHEMISTRY	Date	
Name			Roll No.	

1. In winter freezing conditions can produce cracked milk bottles! In what way does water show unusual behavior?

2



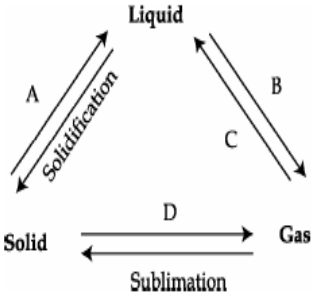
Based on the picture above **explain why liquids or solids have a high density compared to gases?**

3 Four students used different ways of burning a magnesium ribbon as shown by figure I to IV.

The correct way has been followed by which student?

4 Problems can arise with railway steel track from changes in temperature. Small gaps are left between each rail section to allow for changes in length? What is the reason for this change?

5 The following triangle exhibits inter-conversion of the three states of matter. Complete the triangle by labelling the arrows marked A, B, C and D. Out of the four processes A, B, C and D select any one in which heat is (i) absorbed, (ii) evolved.



6 Water left in a bowl will slowly disappear. The water evaporates into water vapor, the gas phase of water. The water vapour mixes with the air. It is a type of phase change in which matter changes from a liquid to a gas. Some liquids evaporate more quickly than others.

a) What is this change called?
b) Number the liquids listed below in order of how fast you would expect them to evaporate at room temperature. Explain why you think this is so.

☐ water ☐ rubbing alcohol ☐ vegetable oil

7. *Get a glass and fill it half full with water.Very carefully add 1 drop of food colouring. Make sure you do not disturb the glass or move it. Leave the glass for 1 hour.*

- What has happened to the colour of the water?

Now leave the same glass for 1 day.

- What has happened to the colour of the water now?
- Explain what you think has happened to the food colouring particles now.

Use the words **particles** and **diffusion** in your answer.Particles can travel faster through a gas than they can through a liquid.

- Why do you think this?

8 When a tea spoon of salt is dissolved in one or two litre of water, every drops of that water taste salty. Which property of particles of matter is shown here?

9 When pollen grains are kept in water, they start giggling rapidly in random order. This is also an evident of motion of particles of matter. Pollen grains moves randomly in water because the particles of water hit the pollen grains from all sides in a random manner.

What is the name given to these kind of movement of particles?

10 Arrange the following substances in increasing order of attraction between the particles

(a) water (b) hydrogen (c) sand

(ii) Which property of gases makes it possible to fill large volume of gases in small cylinders?

11 Glycerine does not flow as easily as alcohol or water. Why? Explain this activity in your own words .

12 Raj, Ram, Shiva were given a spoon each made of plastic, wood and brass respectively. Each of them were asked to dip their respective spoons in a container of boiling water and hold them for a minute.

One of the boys could not carry out the instruction. Why?

Comment on the composition of that substance and its use ?

13 When we smell the odour of the rose , our olfactory nerves are sensing molecules of the scent. Explain smelling a rose demonstrates that molecules are always moving.

14. Why does the summer rain storm lower the temperature?

15. Liquid nitrogen is used as a commercial refrigerant to freeze foods. Nitrogen boils at -196°C. What is this temperature on the Kelvin and Farenheit temperature scale?