

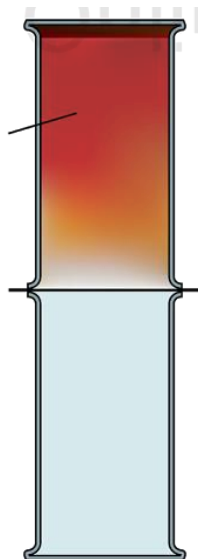
CLASS IX
CHEMISTRY

CHAPTER 1 – MATTER IN OUR SURROUNDINGS

HOTs

1. Boiling point of water is 100°C . Can we make it boil at 98°C or at 102°C ? If yes, then how?
2. If two ice cubes are pressed hard between the palms, what will happen when pressure is released after some time? Give reason.
3. In certain experiment a gas jar B containing reddish brown gas, nitrogen dioxide is inverted over another jar A containing colourless hydrogen gas as shown. Now, the lid separating the two jars is removed.

Answer the following.



- i) After some time, what are the constituents in jar A?
- ii) What colour will be observed in jar A and jar B?
- iii) What is this phenomenon called?

4. Ice was added to three beakers A, B and C. Beaker A contains super cooled water at -3°C , beaker B contains water at 0°C and beaker C contains water at room temperature 25°C . What will happen in each beaker?

5. Butter is generally wrapped in wet cloth during summer if no refrigerator is available. Explain.

6. Carbon dioxide was taken in a cylinder at low temperature and is compressed by applying pressure.

i) Which state of matter will be obtained after completion of the process?

ii) Name and define the process.

iii) What is the common name of the product formed by above process?

7. Water as ice has a cooling effect whereas water as steam may cause burns. Explain these observations.

8. Alka was making tea in a kettle. Suddenly she felt intense heat from the puff of steam gushing out of the spout of the kettle. She wondered whether the temperature of the steam was higher than that of the water boiling in the kettle. Explain.

9. Tarun got an invitation to attend the party. On coming to his place, he found that both shirt and pants were wet. What step he would take to dry them quickly?

10. Ritu went to village in the hills for holidaying. She found that the villagers carry out regular cooking in open vessels. She advised the people to use pressure cookers instead of open vessels to save time and also fuels.

i) How can pressure cooker save time and fuel?

ii) What is the relationship between pressure and temperature with reference to pressure cooker?

11. A drop of ink and honey are added to water contained in different beakers. Which of the two will spread faster and why?

12. 5 ml of water is taken in test tube and also in china dish separately. They were kept under different conditions as described below.

a) Both were kept under fan.

b) Both were kept in the cupboard.

In which case evaporation will be faster (give reason)

i) In test tube or in china dish.

ii) In cupboard or under the fan.

iii) If both are placed outside on a rainy day how will evaporation be effected?

13. Ramesh accompanied his father for purchasing some cooling equipment for the house to cope with summer heat. The shopkeeper showed them two types of cooling equipment – a desert cooler and an air conditioner. The desert cooler was much cheaper than the air conditioner. Ramesh's father wanted to buy desert cooler but Ramesh insisted his father to buy air conditioner. According to you, which is a better option and why?

14. Give reasons for the following:

i) A balloon when kept in Sun bursts after sometime.

ii) Doctors advise to put strips of wet cloth on the forehead of a person having high fever.

iii) The sky lanterns rise and fly when the flame is lit.