

Chemistry Study Materials for Class 9 (NCERT Based notes of Chapter -01)

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MATTER IN OUR SURROUNDINGS

EVAPORATION IN EVERYDAY LIFE:

(a) Water from the surface of oceans, seas and other large water bodies evaporate continuously as they are exposed to atmosphere. The water vapor because of evaporation rises up in air and cumulates in the form of cloud, which makes the rain. Hence, evaporation is one of the essential parts of water cycle. Thus we can say that evaporation is one of the most natural phenomena for us.

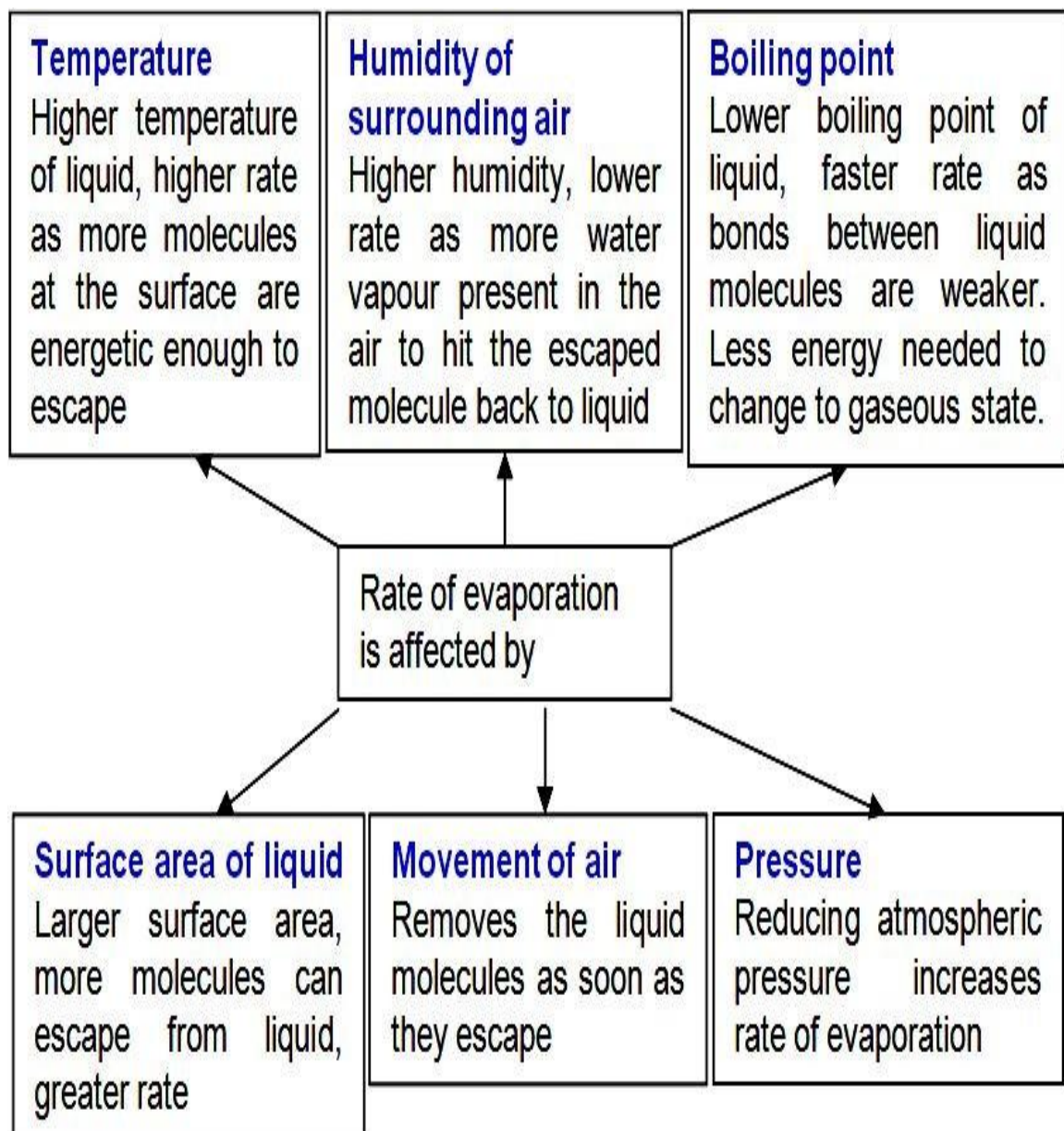
(b) In summer days sweats come out to regulate the temperature of our body. The sweat evaporates because of increase in surface area and getting the temperature from atmosphere. This is resulting in decrease in temperature of skin and finally our body, which gives relief to us in hot days. Sweating is a natural mechanism to keep cool the surface of our body in hot days. This is the cause that with increase in temperature our body sweats a lot especially in hot summer days.

(c) Water is kept in earthen pots to keep them cool. Earthen pot has lot of pores. Water kept in earthen pots evaporates from the pores of pots, which cools the neighboring molecules of water. This process continues and whole of the water kept in the earthen pots become cooler. Hence, water is kept in the earthen pot to keep them cool for drinking purpose.

(d) Wet clothes on the laundry lines are dried up because of evaporation.

(e) Sea water has lot of salt. Sea water is left in shallow pond. The water evaporates gradually because of heat of sun leaving the salt in the shallow pond. These salts are collected and used for with food after purification.

(f) Evaporative coolers are widely used in hot summer days. In evaporative coolers, dry air is blow over husk saturated of water. From the surface of husk water is evaporated resulted in cooling of husk. The water particles at the surface of wet husk evaporate and cool the rest portion of wet husk. Air blown from the cool husk is sent in the room, which cools the room.



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Q1. Why does a desert cooler cool better on a hot dry day?

Answer: The rate of evaporation increases with increase in temperature and decrease in humidity. A desert cooler functions on the basis of evaporation. As evaporation increases when the day is hot and dry, so the desert cooler functions to a better extent.

Q2. How does the water kept in an earthen pot (matka) become cool

during summer? Answer: The surface of the earthen pot (matka) has tiny pores. The water stored in the earthen pot (matka) evaporates faster through these pores due to the increased exposed surface area. As the process of evaporation causes cooling, the stored water inside the earthen pot (matka) becomes cool.

Q3. Why does our palm feel cold when we put some acetone or petrol or

perfume on it? Answer: Acetone, petrol, perfume, etc., being volatile, evaporate very fast when exposed to larger surfaces. During the process they absorb the required latent heat of vaporisation from the palm (if kept on palm). So, the process causes cooling and the palm feels cool.

Q4. Why are we able to sip hot tea or milk faster from a saucer rather than

a cup? Answer: In a saucer, the exposed surface area of tea or milk is greater as compared to the cup. Therefore, the evaporation is faster and it is easier to sip colder tea or milk.

Q5. What type of clothes should we wear in summer?

Answer: We should wear cotton clothes in summers. During summers, we sweat more. On the other hand, cotton is a good absorber of water. Thus, it absorbs sweat from our body and exposes the liquid to the atmosphere, making evaporation faster. During this evaporation, particles on the surface of the liquid gain energy from our body surface, making the body cool.
