

Science

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(Chapter 1)(Matter in Our Surroundings)(Intext Questions)

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Question 1:

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

Answer 1:

When a liquid evaporates, the particles of the liquid absorb energy from the surroundings to compensate the loss of energy during evaporation. This makes the surroundings cool.

In a desert cooler, the water inside it is made to evaporate. This leads to absorption of energy from the surroundings, thereby cooling the surroundings. Again, we know that evaporation depends on the amount of water vapour present in air (humidity). If the amount of water vapour present in air is less, then evaporation is more. On a hot dry day, the amount of water vapour present in air is less. Thus, water present inside the desert cooler evaporates more, thereby cooling the surroundings more.

That is why a desert cooler cools better on a hot dry day.

Question 2:

How does water kept in an earthen pot (matka) become cool during summers?

Answer 2:

When a liquid evaporates, the particles of the liquid absorb energy from the container to compensate the loss of energy during evaporation. This makes the remaining water cool.

There are some pores in an earthen pot through which the liquid inside the pot evaporates. This evaporation makes the water inside the pot cool. In this way, water kept in an earthen pot becomes cool during summers.

Question 3:

Why does our palm feel cold when we put some acetone or petrol or perfume on it?

Answer 3:

When we put some acetone or petrol or perfume on our palm, it evaporates. During evaporation, particles of the liquid absorb energy from the surrounding or the surface of the palm to compensate for the loss of energy, making the surroundings cool. Hence, our palm feels cold when we put some acetone or petrol or perfume on it.

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Question 4:

Why are we able to sip hot tea or milk faster from a saucer than a cup?

Answer 4:

A liquid has a larger surface area in a saucer than in a cup. Thus, it evaporates faster and cools faster in a saucer than in a cup. For this reason, we are able to sip hot tea or milk faster from a saucer than a cup.

Question 5:

What type of clothes should we wear in summers?

Answer 5:

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.

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