PHYSICS

NCERT - NCERT PHYSICS(GUJRATI ENGLISH)

HEAT

Think And Discuss

1. Why it is better to wear cotton clothes in summer ?

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2. Why do we see water droplets on outer surface of a glass containing ice - cold water?

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3. Why do pigs toil in the mud during hot summer?

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4. Why do we store water in matkas (earthern pots)?

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Let Us Improve Our Learning Reflections On Concepts

1. Why do we get dew on the surface of a cold soft drink bottle kept in open air? (AS_1)

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2. Your friend is asked to differentiate between evaporation and boiling. What questions could you ask to make him to know the differences between evaporation and boiling? (AS_2)

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3. Water can evaporate at any temperature Explain with an example? (AS_3)

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4. What role does specific heat play in keeping a watermelon cool for a long time after removing it from a fridge on a hot day? (AS_7)

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5. Equal amounts of water are kept in a cap and in a dish. Which will evaporate faster? Why? (AS_3)

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6. Why specific heat is different for different substances? Explain (AS_1)

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7. If you are chilly outside the shower stall, why do you feel warm after the bath if you stay in the bathroom? (AS_7)

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Let Us Improve Our Learning Application Of Concepts

1. Using the concept of evaporation explain why dogs pant during hot summer days? (AS_1)

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2. If 50g of water at 20° C temperature and 50 g of water 40° C temperature are mixed, what is the final temperature of the mixture of?

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3. What do you observe in the surroundings in terms of cooling or heating when water vapour is getting condensed (AS_1)

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4. Convert following into kelvin scale (AS_1) (i) 20° C (ii) 27° C (iii) $-273^\circ C$

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Let Us Improve Our Learning Higher Order Thinking Questions

1. How do you appreciate the role of the higher specific heat of water in stabilizing atmospheric temperature during winter and summer seasons?

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2. Answer these

(a) How much energy is transferred when 1 g. of boiling water at $100^\circ C$ condenses to water at $100^\circ C$?

(b) How much energy is transferred when 1 g. of boiling water $100^\circ C$ cools to water at 0° C?

(c) How much energy is released or absorbed when 1 g. of water at $0^\circ C$ freezes to ice at $0^\circ C$?

(d) How much energy released or absorbed

when 1 g. of steam at 100° C cools to ice at 0° C?

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3. Suppose that 1 L of water is heated for a certain time to rise its temperature for 2° C. If 2L of water is heated for the same time, how much of its temperature would rise?

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Multiple Choice Questions

1. Which of the following is a warming process

A. Evaporation

B. condensation

C. boiling

D. all the above

Answer:

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2. Melting is a process in which solid phase changes to

A. liquid phase

B. liquid phase at constant temperature

C. gaseous phase

D. Gaseous phase at constaint temperature

Answer:

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3. Three bodies A, B and C are in thermal equilibrium. The temperature of B is 45° C. then the temperature of C is

A. $45^\circ C$

B. $50^\circ C$

C. $40^\circ C$

D. any temperature

Answer:

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4. The temperature of a steel rod is 330K. Its temperature in 0° C is

A. $55^\circ C$

B. $57^\circ C$

C. $59^\circ C$

D. $53^\circ C$

Answer:

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5. What is specific heat ? Give its unit and on which factors does specific heat depends upon ?

A. $Q / \Delta T$

B. $Q \Delta T$

C. $Q / m \Delta T$

D. $m \Delta T / Q$

Answer:

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6. Boiling point of water at normal atmospheric pressure is

A. $0^\circ C$

B. $100^\circ C$

C. $110^\circ C$

D. $-5^\circ C$

Answer:

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7. When ice melts, its temperature

A. remains constant

B. increases

C. decreases

D. first decrease and then increase

Answer:

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Multiple Choice Questions Suggested Projects

1. Take 2kg of ice is at -5° C. Supply heat is continuously to ice. Till it starts boiling. Note the temperature every minute. Draw a graph between temperature and time using the values you get. What do you understand from the graph. Write the conclusions. (You know that ice melts at0°c and boils at $l00^\circ C$

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