



# INDIAN SCHOOL AL WADI AL KABIR



<b>CLASS: VII</b>	<b>DEPARTMENT: SCIENCE</b> <b>2023 - 2024</b>	<b>DATE: 26/04/2023</b>
<b>TEXTBOOK Q &amp; A</b>	<b>TOPIC: HEAT</b>	<b>NOTE: A4 FILE FORMAT</b>
<b>NAME OF THE STUDENT:</b>	<b>CLASS &amp; SEC:</b>	<b>ROLL NO.</b>

1. State similarities and differences between the laboratory thermometer and the clinical thermometer.

### SIMILARITIES

- i) Both thermometers consist of long narrow uniform glass tubes.
- (ii) Both have a bulb at one end with mercury.
- (iii) Both use Celsius scale on the glass tube.

### DIFFERENCES

<b>LABORATORY THERMOMETER</b>	<b>CLINICAL THERMOMETER</b>
<b>i) The range of a laboratory thermometer is generally from <math>-10^{\circ}\text{C}</math> to <math>110^{\circ}\text{C}</math></b>	<b>i) The range of a clinical thermometer is from <math>35^{\circ}\text{C}</math> to <math>42^{\circ}\text{C}</math></b>
<b>ii) Kink is absent</b>	<b>ii) Kink is present</b>
<b>iii) It is used for measuring the temperature of other objects</b>	<b>iii) It is used only for measuring human body temperature</b>

2. Give two examples each of conductors and insulators of heat.

**Ans: Conductors of heat: (i) Aluminium (ii) Iron**  
**Insulators of heat: (i) Wood (ii) Plastic**

**3. Fill in the blanks:**

- (a) The hotness of an object is determined by its ----- . **(temperature)**
- (b) Temperature of boiling water cannot be measured by a ----- thermometer. **(clinical)**
- (c) Temperature is measured in degree ----- . **(Celsius)**
- (d) No medium is required for transfer of heat by the process of ----- . **(radiation)**
- (e) A cold steel spoon is dipped in a cup of hot milk. It transfers heat to its other end by the process of ----- . **(conduction)**
- (f) Clothes of ----- colours absorb heat better than clothes of light colours. **(dark)**

**4. Match the following:**

- |   |            |
|---|------------|
| (i) Land breeze blows during:                     | (a) summer |
| (ii) Sea breeze blows during:                     | (b) winter |
| (iii) Dark coloured clothes are preferred during: | (c) day    |
| (iv) Light coloured clothes are preferred during: | (d) night  |

**Ans**

- |  |                   |
|--|-------------------|
| (i) Land breeze blows during                     | (d) <b>night</b>  |
| (ii) Sea breeze blows during                     | (c) <b>day</b>    |
| (iii) Dark coloured clothes are preferred during | (b) <b>winter</b> |
| (iv) Light coloured clothes are preferred during | (a) <b>summer</b> |

**5. Discuss why wearing more layers of clothing during winters keeps us warmer than wearing just one thick piece of clothing.**

**Ans: More layers of clothing keep us warm in winters as they have a lot of space between them. This space gets filled up with air. As air is a bad conductor, it does not allow the body heat to escape out.**

**6. Look at the Figure. Mark where the heat is being transferred by conduction, by convection and by radiation.**



- Ans: (a) Transfer of heat from hot plate to pan is by conduction.**  
**(b) Transfer of heat within water is by convection.**  
**(c) Transfer of heat from hot bodies like pan, plate and burner to the surroundings is by radiation.**

7. In places of hot climate, it is advised that the outer walls of houses be painted white. Explain.

**Ans:** In places of hot climate, it is advised to paint the outer walls of houses as white because a light colour such as white reflects back most of the heat that falls on it. Hence, a light colour tends to keep the house cool.

8. One litre of water at  $30^{\circ}\text{C}$  is mixed with one litre of water at  $50^{\circ}\text{C}$ . The temperature of the mixture will be

- (a)  $80^{\circ}\text{C}$  (b) more than  $50^{\circ}\text{C}$  but less  $80^{\circ}\text{C}$   
(c)  $20^{\circ}\text{C}$  (d) between  $30^{\circ}\text{C}$  and  $50^{\circ}\text{C}$

**Ans:** (d) between  $30^{\circ}\text{C}$  and  $50^{\circ}\text{C}$ .

9. An iron ball at  $40^{\circ}\text{C}$  is dropped in a mug containing water at  $40^{\circ}\text{C}$ . The heat will:

- (a) Flow from iron ball to water.  
(b) Not flow from iron ball to water or from water to iron ball.  
(c) Flow from water to iron ball  
(d) increase the temperature of both.

**Ans:** (b) Not flow from iron ball to water or from water to iron ball as both the substances have same temperature.

10. A wooden spoon is dipped in a cup of ice cream. Its other end

- (a) becomes cold by the process of conduction.  
(b) becomes cold by the process of convection.  
(c) becomes cold by the process of radiation.  
(d) does not become cold.

**Ans:** (d) does not become cold as wood is a bad conductor of heat.

11. Stainless steel pans are usually provided with copper bottoms. The reason for this could be that:

- (a) copper bottom makes the pan more durable.  
(b) such pans appear colourful.  
(c) copper is a better conductor of heat than the stainless steel.  
(d) copper is easier to clean than the stainless steel.

**Ans:** (c) copper is a better conductor of heat than the stainless steel.

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