



## INDIAN SCHOOL AL WADI AL KABIR



<b>CLASS: VI</b>	<b>DEPARTMENT: SCIENCE 2025- 26</b>	<b>DATE: 19/10/2025</b>
<b>WORKSHEET NO: 6</b>	<b>TOPIC: TEMPERATURE AND ITS MEASUREMENT</b>	<b>NOTE: A4 FILE FORMAT</b>
<b>NAME OF THE STUDENT:</b>	<b>CLASS &amp; SEC:</b>	<b>ROLL NO:</b>

### **I. OBJECTIVE-TYPE QUESTIONS**

1. The SI unit of temperature is
  - a) kelvin.
  - b) degrees Celsius.
  - c) degree Fahrenheit
  - d) None of the above
2. The temperature at which water boils on a Celsius scale is
  - a) 37 °C
  - b) 45 °C
  - c) 0 °C
  - d) 100 °C
3. What is the temperature range of a laboratory thermometer?
  - a) -10 to 110°C.
  - b) -100 to 100°C
  - c) 10 to 50°C
  - d) 37 to 40°C
4. What is the normal temperature of a healthy human body in Celsius and Fahrenheit?
  - a) 35.1°C, 97.6 °F
  - b) 37.0 °C, 98.6 °F
  - c) 36.2 °C, 99.6 °F
  - d) 37.8 °C, 100.6 °F
5. Digital thermometers measure temperature using which sensors?
  - a) Light sensors
  - b) Sound sensors
  - c) Heat sensors
  - d) Pressure sensors

6. Identify the type of thermometer shown in the picture.

- a) Laboratory thermometer
- b) Clinical thermometer
- c) Infrared thermometer
- d) Room thermometer



7. Which substance was traditionally used in thermometers but is now avoided due to toxicity?

- a) Alcohol
- b) Mercury
- c) Water
- d) Glycerin

For the following questions, two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (i), (ii), (iii), and (iv) as given below:

- i) Both A and R are true, and R is the correct explanation of the assertion.
- ii) Both A and R are true, but R is not the correct explanation of the assertion.
- iii) A is true, but R is false.
- iv) A is false, but R is true

8. **Assertion (A):** Clinical thermometers are used for measuring the temperature of boiling water.

**Reason (R):** Clinical thermometers have a limited range only for measuring human body temperature.

9. **Assertion (A):** Infrared thermometers were widely used during the COVID-19 pandemic.

**Reason (R):** Infrared thermometers can measure temperature without direct contact with the body.

10. **Assertion (A):** Normal body temperature can vary from person to person.

**Reason (R):** The body temperature is influenced by factors such as age, time of the day & activity level.

## II. VERY SHORT ANSWER TYPE QUESTIONS (2 M):

1. a) Define temperature. Name the instrument used to measure temperature.

**[Hint: Temperature is a reliable measure of the hotness or coldness of a body. The instrument used to measure temperature is called a thermometer.]**

b) Which are the three clinical thermometers?

**[Hint:**

**1) Digital clinical thermometer**

**2) Mercury clinical thermometer**

**3) Infrared thermometer]**

2. Why a digital thermometer is considered safer and more accurate than a mercury thermometer.

**[Hint: A digital thermometer uses heat sensors to provide a digital readout, eliminating the risk of mercury exposure and providing a precise, easy-to-read measurement. It is less prone to reading errors like mercury thermometers.]**

3. Identify the type of thermometer shown in the picture. Name the liquid used in it?



**[Hint: the type of thermometer shown in the picture is laboratory thermometer. The liquid used in the laboratory thermometer is generally alcohol (colored red to make it easily seen) or mercury.]**

4. Give reason:

a) A clinical thermometer has a range between 35 °C to 42 °C.

**[Hint: The temperature of the human body does not go below 35 °C or above 42 °C.]**

b) The temperature of hot water should be measured by keeping the laboratory thermometer immersed in hot water.

**[Hint: As there is no kink in the laboratory thermometer, the level of the liquid column comes down when you take the thermometer out of the hot water.]**

5. John visited the doctor for a checkup. The doctor told him he had a normal body temperature of 37 degrees. What is the scale of temperature used by the doctor? Write the symbol of the same.

**[Hint: The Doctor used the Celsius scale of temperature. The symbol for the Celsius scale is °C.]**

6. Why is it necessary to wash the tip of the clinical thermometer before and after use?

**[Hint: Washing the tip of the thermometer before and after use helps prevent the spread of germs and ensures accurate readings. It is essential for maintaining hygiene, especially when measuring the temperature of different individuals.]**

### **III. SHORT ANSWER TYPE QUESTIONS (3M):**

1. Fill in the given box.

<b>SCALES OF TEMPERATURE</b>	<b>UNIT</b>	<b>SYMBOL</b>
Celsius scale	.....(1).....	.....(2).....
.....(3).....	degree Fahrenheit	.....(4).....
.....(5).....	.....(6).....	K

**[Hint: (1)- degree Celsius, (2)- °C, (3)- Fahrenheit scale, (4)- °F, (5)- Kelvin scale, (6)- Kelvin]**

2. i) Write the relation between the Celsius scale and the Kelvin scale.

**[Hint: Temperature in kelvin scale = Temperature in Celsius scale + 273.15]**

ii) Convert 60 °C to Kelvin.

**[Hint: Temperature in kelvin scale = Temperature in Celsius scale + 273.15  
= 60 + 273.15  
= 333.15 K.]**

3. i) Why is it important to measure temperature accurately?

**[Hint: Accurate temperature measurement is important because wrong measurements can lead to incorrect conclusions. Inaccurate measure of body temperature may lead to suggesting a fever when there is no fever, and when there is a fever, it may suggest no fever.]**

- ii) What did people use to detect fever before thermometers were developed?

**[Hint: Before thermometers, people used to detect fever by checking the pulse rate, as fever affects it. However, this method was not very reliable since conditions other than fever could also influence the pulse rate.]**

4. What is the purpose of the kink in mercury thermometers?

**[Hint: The kink (constriction or slight bend) in a clinical thermometer, located near the bulb, prevents the mercury from immediately falling back down after it has been removed from the body.**

**This allows the user to accurately read the temperature, as the mercury remains at the highest point it reached while in contact with the body.]**

5. What is the importance of measuring air temperature?

**[Hint: Measuring air temperature is crucial for understanding and responding to a wide range of environmental and practical concerns, from weather forecasting and climate change to agriculture and human health. It provides essential data for predicting weather patterns, assessing climate change trends, optimizing agricultural practices, and ensuring safe living and working conditions.]**

#### **IV. LONG ANSWER TYPE QUESTIONS (5M):**

1) What are the precautions to be taken while using a digital clinical thermometer and a laboratory thermometer?

**[Hint:**

**Digital clinical thermometer:**

**i) Read the instruction manual before use.**

**ii) The tip of the thermometer is to be washed with soap and water before and after use.**

**iii) The digital portion or display should be out of water while washing.**

**iv) Do not hold the thermometer by the tip.**

**Laboratory thermometer:**

**i) Handle the thermometer with care. If it hits a hard object, it can break.**

**ii) Should be kept vertically. It should not be tilted.**

**iii) The bulb should be surrounded from all sides by the substance whose temperature is to be measured. The bulb should not touch the bottom or sides of the container.**

**iv) The temperature should be read while the thermometer is inside the water.**

**v) The eye should be directly in line with the level of the liquid column while reading the temperature.**

2) Describe the three broad classifications of thermometers.

<b>Clinical thermometer</b>	<b>Laboratory thermometer</b>	<b>Room thermometer</b>
<b>The thermometer that measures our body temperature is called a clinical thermometer</b>	<b>A laboratory thermometer is used to measure the temperature of objects other than the human body.</b>	<b>Used to measure the temperature of the air or the room. Used to measure daily maximum and minimum air temperatures.</b>
<b>A clinical thermometer reads the temperature from 35°C to 42°C</b>	<b>The range of a laboratory thermometer is generally from -10°C to 110°C</b>	<b>A typical room thermometer measures temperature within a range of -20°C to 50°C</b>
<b>A clinical thermometer can be a digital clinical thermometer, an infrared clinical thermometer, or a mercury clinical thermometer.</b>	<b>Mercury or alcohol is used as a liquid in a laboratory thermometer.</b>	<b>Typically found in laboratories, hospitals, clinics, or weather stations.  Mercury or colored alcohol is used.</b>

**V. SOURCE-BASED/ CASE STUDY-BASED QUESTIONS**

- 1) Different types of thermometers, such as clinical thermometers, laboratory thermometers, and room thermometers, are used for measuring temperature. A clinical thermometer is used to measure the human body temperature. Checking the body's temperature in young children is done orally by inserting the thermometer under the tongue. Blood flow is maximum here, and the internal body heat is present under the tongue, because of which it is placed under the tongue to read the inner body heat. This way, we can measure the temperature of the whole body. A laboratory thermometer is used to measure the temperature of objects other than the

human body. For example, the temperature of hot water is measured using a laboratory thermometer. While using a laboratory thermometer, it should be kept vertically & should not be tilted. The temperature should be read while the thermometer is inside the water. The eye should be directly in line with the level of the liquid column while reading the temperature.

1. What are the three types of thermometers used to measure temperature?

**[Hint: clinical thermometer, laboratory thermometer, and room thermometer]**

2. Why is a thermometer kept under the tongue to measure body temperature?

**[Hint: Blood flow is maximum here, and the internal body heat is present under the tongue, because of which it is placed under the tongue to read the inner body heat. This way we can measure the temperature of the whole body]**

3. Write two precautions to be taken while using a laboratory thermometer.

**[Hint: While using a laboratory thermometer, it should be kept vertically & should not be tilted. The eye should be directly in line with the level of the liquid column while reading the temperature.]**

**ANSWERS FOR OBJECTIVE TYPE QUESTIONS [1 to 10]:**

**1. (a) 2. (d) 3. (a) 4. (b) 5. (c) 6. (d) 7. (b) 8. (iv) 9. (i) 10. (i)**

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