PICTURE-BASED QUESTIONS

CBSE Class 6 Science | Chapter 7: Temperature and its Measurement

Instructions: Look at each picture from the chapter carefully and answer the three questions. Answers are given at the end of this document.

Marks: Each picture-based set carries 3 marks (1 mark per question) = 45 marks.

Note for teachers/parents: Pictures are reproduced from the NCERT Class 6 Science textbook (Curiosity) for educational practice only.

Picture 1: The opening picture – Lambok and Phiban



Chapter opening picture (NCERT Class 6 Science, Ch 7)

1. Which character in the story felt feverish?

2. Which instrument did Phiban use to confirm the fever?

3. What did the thermometer show for Lambok?

Picture 2: Fig. 7.1 – Feeling hotness or coldness of water



Fig. 7.1: Feeling hotness or coldness of water by dipping hands

Fig. 7.1

1. What do containers A, B and C hold?

2. How does the water in B feel to the right hand (earlier in A) and to the left hand (earlier in C)?

3. What do you infer from this activity?

Picture 3: Fig. 7.2 – A digital clinical thermometer



Fig.7.2: A digital clinical thermometer

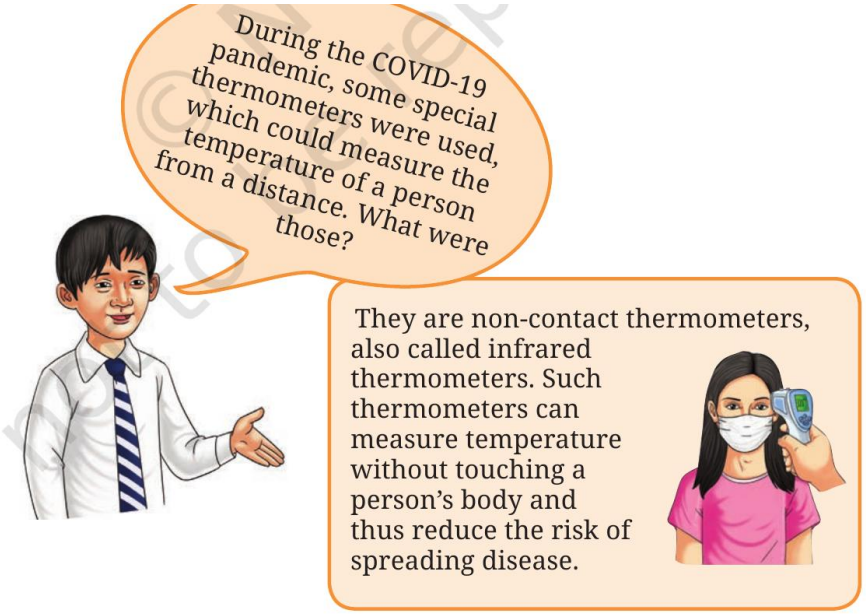
Fig. 7.2

1. Name the thermometer shown. What does it measure?

2. What temperature does the display show?

3. Which scale does it generally use and what is the unit?

Picture 4: Non-contact (infrared) thermometer



Do you know? (COVID-19 thermometers)

1. What kind of thermometer is the girl being checked with?

2. How does it measure temperature?

3. Give one reason why such thermometers are useful.

Picture 5: Fig. 7.3(a) – A laboratory thermometer



Fig. 7.3(a)

1. Name the part marked "Bulb". What does it contain?

2. What happens to the liquid column when the temperature rises?

3. What is the range of this thermometer?

Picture 6: Fig. 7.3(b) – Close-up of the thermometer scale

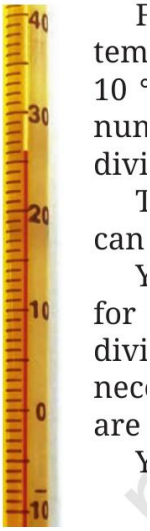


Fig. 7.3(b): Closeup of a part of the thermometer shown in Fig. 7.3a.

Fig. 7.3(b)

1. What is the temperature difference between two bigger marks, such as 0 °C and 10 °C?

2. How many small divisions are there between these marks?

3. Find the smallest value this thermometer can read.

Picture 7: Fig. 7.4 – Measuring the temperature of warm water

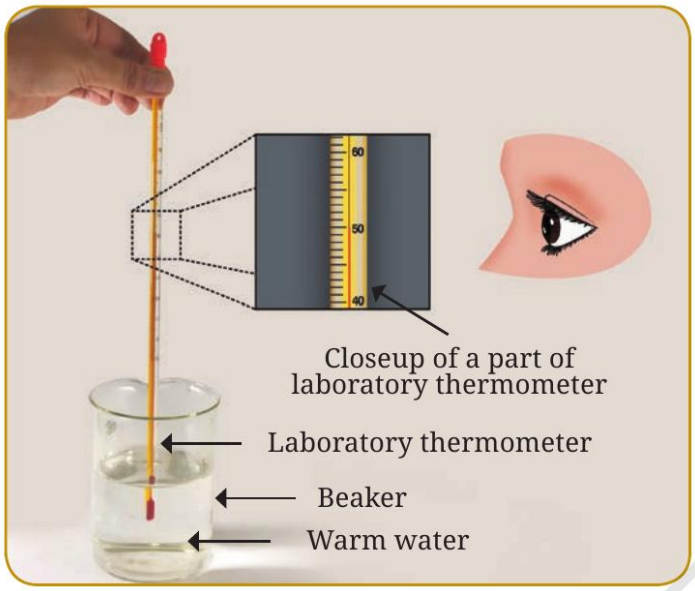


Fig.7.4: Measuring temperature of warm water

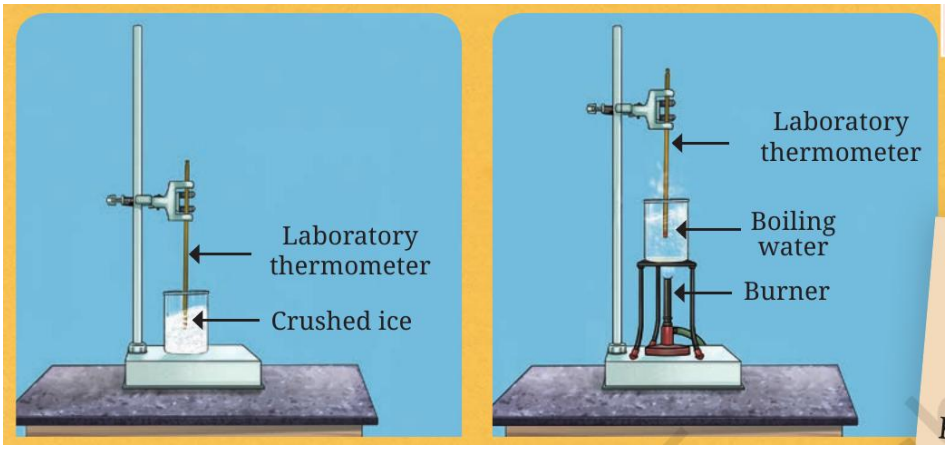
Fig. 7.4

1. Name the three things labelled in the figure.

2. How is the thermometer held?

3. How should the eye be placed while reading?

Picture 8: Ice and boiling water set-ups (More to do!)



Teacher's experimental set-ups

1. Which two substances are being heated or kept in these set-ups?

2. What happens to the temperature of boiling water and of melting ice?

3. State the caution given for this activity.

Picture 9: Fig. 7.5 – Room thermometer



Fig.7.5: Room thermometer

Fig. 7.5

1. Name the instrument shown.

2. What does it tell us?

3. Name two places where such thermometers may be seen.

Picture 10: Anna Mani – the Weather Woman of India



Anna Mani (1918–2001)

1. Name the scientist shown and the title she is known by.

2. What did she invent and build?

3. How did her work help India?

Picture 11: Fig. 7.6 – Four students measuring temperature

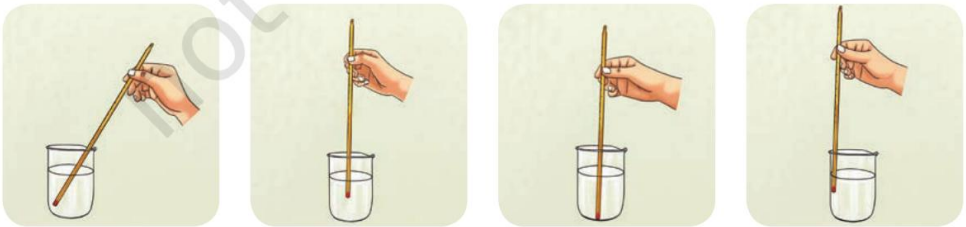


Fig. 7.6

Fig. 7.6

1. Who followed the correct method?

2. What is wrong with Student 1?

3. What mistake did Students 3 and 4 make?

Picture 12: Fig. 7.8 – Part of a thermometer



Fig. 7.8

Fig. 7.8

1. What type of thermometer is it?

2. What is the smallest value it can measure?

3. Roughly what does the red liquid column read?

Picture 13: Fig. 7.9 – Three thermometers

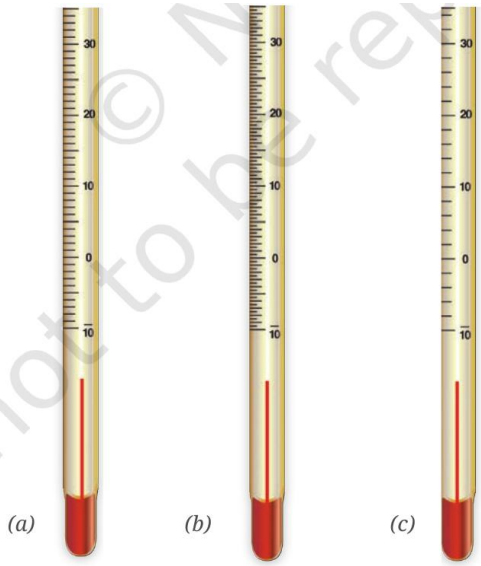


Fig. 7.9: Three thermometers

Fig. 7.9

1. Find the smallest value of thermometers (a), (b) and (c).

2. Which thermometer is best for measuring 22.5 °C?

3. Why are (a) and (c) not suitable?

Picture 14: Fig. 7.10 – Reading the scale

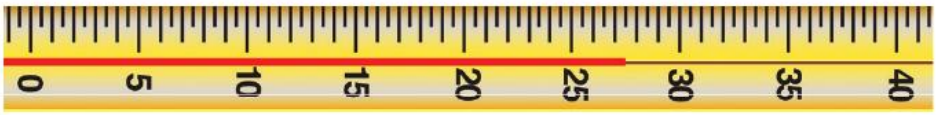


Fig. 7.10

Fig. 7.10

1. What is the range shown on this scale?

2. What is the smallest value on this scale?

3. What temperature does the thermometer show?

Picture 15: Fig. 7.11 – Set-up to measure water and room temperature

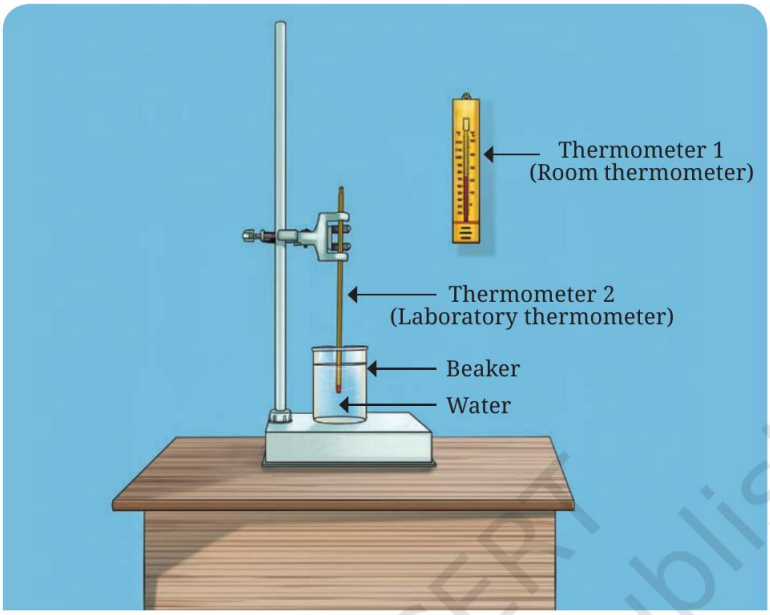


Fig. 7.11: Set up to measure temperature of water and room temperature

Fig. 7.11

1. Name Thermometer 1 and Thermometer 2.

2. What does each thermometer measure?

3. How often are readings to be taken in the "Learning further" activity?

ANSWER KEY – PICTURE-BASED QUESTIONS

Picture 1: The opening picture – Lambok and Phiban

1. Lambok.
2. A thermometer (a clinical thermometer).
3. His temperature was normal.

Picture 2: Fig. 7.1 – Feeling hotness or coldness of water

1. A: warm water, B: tap water, C: ice-cold water.
2. Cool to the right hand and warm to the left hand.
3. We cannot always rely on our sense of touch to decide whether a body is hot or cold.

Picture 3: Fig. 7.2 – A digital clinical thermometer

1. A digital clinical thermometer; it measures human body temperature.
2. 37.0 °C (normal body temperature).
3. The Celsius scale; unit degree Celsius (°C).

Picture 4: Non-contact (infrared) thermometer

1. A non-contact (infrared) thermometer.
2. Without touching the person's body.
3. They reduce the risk of spreading disease.

Picture 5: Fig. 7.3(a) – A laboratory thermometer

1. It is the enlarged end of the tube; it contains the liquid (alcohol coloured red, or mercury).
2. The liquid column rises.
3. –10 °C to 110 °C.

Picture 6: Fig. 7.3(b) – Close-up of the thermometer scale

1. 10 °C.
2. 10 divisions.
3. 10 ÷ 10 = 1 °C.

Picture 7: Fig. 7.4 – Measuring the temperature of warm water

1. Laboratory thermometer, beaker and warm water.
2. Vertically, with the bulb in the water but not touching the bottom or sides.
3. Directly in line with the level of the liquid column.

Picture 8: Ice and boiling water set-ups (More to do!)

1. Crushed ice and boiling water.
2. Both remain constant.
3. Perform it only under the teacher's supervision; do not touch the experimental set-ups.

Picture 9: Fig. 7.5 – Room thermometer

1. A room thermometer.
2. An approximate idea of the room temperature.
3. School laboratory, doctor's clinic, hospital (any two).

Picture 10: Anna Mani – the Weather Woman of India

1. Anna Mani; the "Weather Woman of India".
2. A large number of weather measurement instruments.
3. It reduced India's reliance on other nations for such instruments.

Picture 11: Fig. 7.6 – Four students measuring temperature

1. Student 2.
2. The thermometer is tilted instead of held vertically.
3. Student 3's bulb touches the bottom; Student 4's bulb touches the side of the beaker.

Picture 12: Fig. 7.8 – Part of a thermometer

1. A laboratory thermometer.
2. 1 °C (10 small divisions between two marks 10 °C apart).
3. About 26 °C (between the 20 °C and 30 °C marks).

Picture 13: Fig. 7.9 – Three thermometers

1. (a) 1 °C, (b) 0.5 °C, (c) 2 °C.
2. Thermometer (b).
3. Their smallest values (1 °C and 2 °C) cannot show 22.5 °C exactly.

Picture 14: Fig. 7.10 – Reading the scale

1. 0 °C to 40 °C.
2. 0.5 °C (10 divisions between 0 °C and 5 °C).
3. 27.5 °C.

Picture 15: Fig. 7.11 – Set-up to measure water and room temperature

1. Thermometer 1: room thermometer; Thermometer 2: laboratory thermometer.
2. The room thermometer measures room (air) temperature; the laboratory thermometer measures the temperature of the water in the beaker.
3. Three times a day (first period, lunch break, last period), repeated for two weeks.