

Tender Heart High School, Chandigarh
Class-VI Subject: Physics
Teacher: Nimvita Lesson-2 Physical Quantities
and Measurement

Date: 5.8.24

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Good Morning Children!

This lesson is of Class-VI for the subject of Physics, Lesson-2, Physical Quantities and Measurement, of your textbook 'Concise Physics', Selina Publishers. It is being submitted to you on 5.8.24

In the last lecture, we studied about measurement of mass. Today, we will study about measurement of time, temperature.

Measurement of time:

The interval between two events is called as time.

Units of time:

S.I unit of time is seconds (s).

$$1 \text{ min} = 60 \text{ s}$$

$$1 \text{ h} = 60 \text{ min} = 3600 \text{ s}$$

$$1 \text{ day} = 24 \text{ h} = 86400 \text{ s}$$

$$1 \text{ year} = 365 \text{ days} = 3.15 \times 10^7 \text{ s}$$

Devices for measuring time:

A pendulum clock: In this clock, time is measured by making use of the time taken by pendulum to complete one oscillation. The circular dial has 12 markings. Each marking has 5 divisions. There are 60 small divisions in all.

There are three needles 1.) second's arm, 2.) minute's arm and 3.) hour's arm.

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A watch: A watch makes use of the gear wheels. These wheels set up the speed of rotation of the seconds, minutes and hour's arm.

Measuring devices for a short time interval:-

The short time interval of an event is measured with stop clock or a stop watch. They have arrangements 'to start to stop' and 'to reset at zero'.

An electronic stop watch has a digital display screen. It is used in athletic activities.

Measurement of temperature:

The temperature is the measure of degree of hotness or coldness of an object.

S.I unit of temperature is kelvin 'K'.

Other units are °C or °F.

Devices used to measure the temperature of an object:

a) **Laboratory thermometer:**

- It consists of a glass tube with bulb at end.
- Bulb is filled with mercury.
- The long part of capillary is called as stem.
- Stem has markings from -10°C to 110°C .
- 0 mark shows melting point of ice and 100

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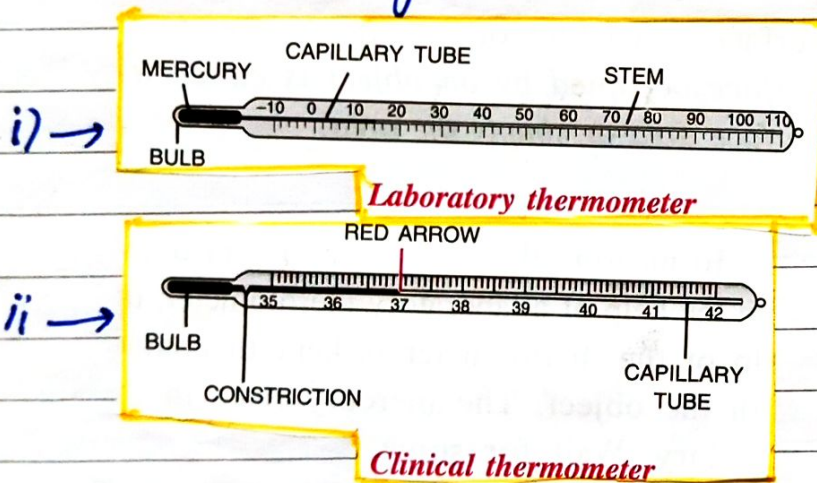
mark shows boiling point of water.

Clinical thermometer:

- It is used by doctors to measure temperature of a patient's body.

Description:

- It has markings from 35°C to 42°C .
- It has a constriction just above the bulb to prevent mercury from falling back all by itself. The temperature of a healthy person is 37°C . This temperature is marked by red arrow.



Measurement of area:

Definition: The ^{total} space occupied by an object or total surface occupied by an object is called its area. $\text{Area} = \text{length} \times \text{breadth}$.

SI unit is m^2 . The bigger units are

$1 \text{ km}^2 = 100 \text{ m}^2$, $1 \text{ hectare} = 10^4 \text{ m}^2$ and $1 \text{ km}^2 = 10^6 \text{ m}^2$

Smaller units are $1 \text{ cm}^2 = 10^{-4} \text{ m}^2$, $1 \text{ mm}^2 = 10^{-6} \text{ m}^2$

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and MeasurementArea of square = $l \times l = l^2$ Area of rectangle = $l \times b = lb$ Area of triangle = $\frac{1}{2} \times l \times h = \frac{1}{2} \times l \times h$ Area of circle = πr^2 .Area of irregular object can be
measured with graph paper.I am ending today's topic. Kindy do Q 1, 2, 4, 5,
9, 10, 12, 14, 15, 18, 19, 21, 24, 25 in copy.

Thank you!