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STUDY MATERIAL SCIENCE

CLASS-VII

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► Heat

Precautions while Reading the Thermometer

A clinical thermometer should not be used for any object other than the human body. There are some following precautions which are to be observed while reading a clinical thermometer.

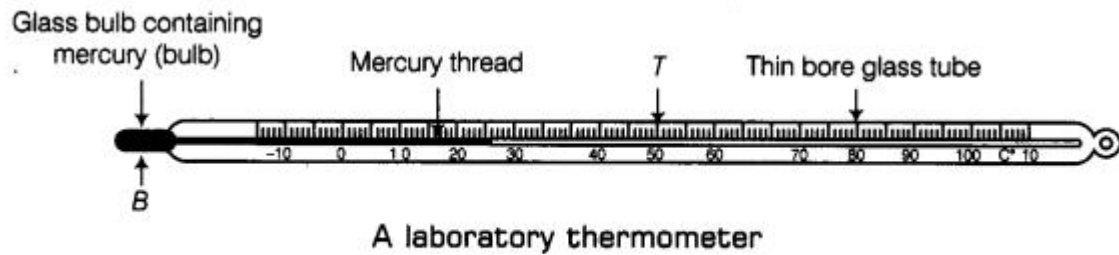
- Wash the clinical thermometer before and after using preferably with an antiseptic solution.
- Be ensure that the mercury level before using the clinical thermometer should be below 35°C.
- The clinical thermometer should be read by keeping the level of mercury along the line of sight.
- While reading the clinical thermometer, it should never be held by the bulb.
- The clinical thermometer should be carefully handled.

Laboratory Thermometer

A device which is used for measuring the temperature in a science laboratory is called a laboratory thermometer.

This thermometer is made up of a long glass tube having a thin bore. The graduation marked on the tube of a laboratory thermometer can measure the temperature from -10°C to 110°C, this is known as the range of a laboratory thermometer. Also, determine how much a small division on this thermometer reads (this is also known as least count of the thermometer),

it is due to the fact that this information is required to read the thermometer correctly.



Maximum-Minimum Thermometers

These are the special thermometers which automatically record the maximum and minimum temperature of the day. The maximum and minimum temperature of the last day reported in weather reports in TV and newspapers are measured by the maximum-minimum thermometers.

Reading a Laboratory Thermometer

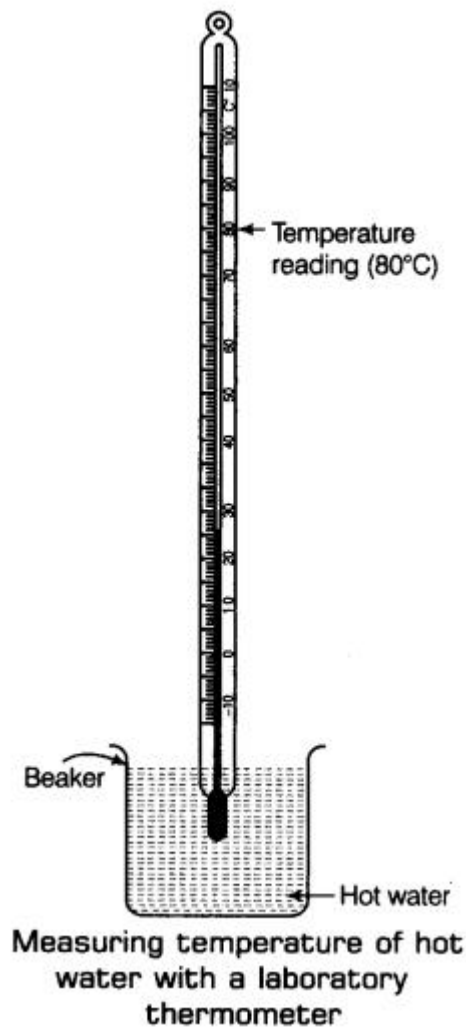
There are following steps to read the temperature on a thermometer.

Step I: First of all, take some hot water in a beaker.

Step II: Now, try to hold the laboratory thermometer from its glass tube and immerse the bulb of the thermometer in hot water taken in the beaker. Notice that the bulb of the thermometer should not touch the sides or the bottom of the beaker as shown in the figure.

Step III: Here, we will observe the shining thread of mercury moving up in the thermometer tube. After some time, the mercury will stop rising and stand at one place.

Now, read the temperature on the thermometer tube which corresponds to the top of the mercury thread. This will give us the temperature of hot water taken in the beaker.



Note: To measure the human body temperature a laboratory thermometer cannot be used because as soon as we take out the bulb of the laboratory thermometer from the mouth of a patient, the mercury level will start falling quickly (due to cooling of its bulb by air). So, this will provide a wrong value of the body temperature.