

St. Arnold's English medium school meghnagar

PART - 4

class- 7th

subject - Science

Topic - Heat

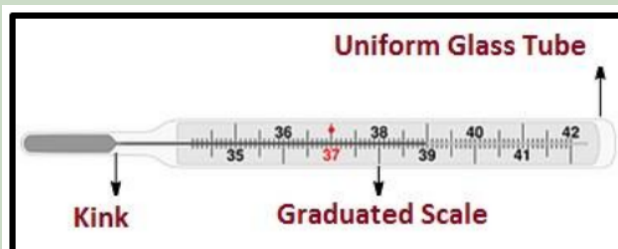
- **Heat**

- Woollen clothes are obtained from animal fibres. Woollen clothes are generally dark in colour and are worn in the winter season as they protect us from the cold environment.
- Cotton clothes are obtained from the plant fibres. The cotton clothes are generally light in colour and are worn in summer season so that we can feel cool.

- **Hot and Cold**

- We can understand if an object is hot or cold by the sense of touch. However, it can trick us sometimes. Therefore, we use a thermometer.
- The temperature of an object: It is the degree of hotness or coldness of an object.
- **Thermometer**: It is a device that can be used to find out how hot an object is. In other words, we use a thermometer to measure the temperature of an object.
- Measuring the temperature of an object using a thermometer

- **Clinical thermometer**



- **Figure 1 Clinical thermometer**

- It is a device that is used to measure the body temperature of a person.
- It is made up of a glass tube of uniform thickness.
- The glass tube contains a bulb at one end which is filled with Mercury.
- The Mercury level in the thermometer rises up in the thread-like portion of the thermometer which therefore indicates the temperature of the body.
- The level of the Mercury can be measured by reading the scale given on the thermometer.
- The scale of the thermometer records the temperature in degree Celsius, generally, 35o C to 45o C, which is the range of human body temperature.
- On an average, the temperature of the human body is around 37o C.
- The clinical thermometer has a small sharp curve (kink) present near the bulb. This prevents the Mercury level from falling down on its own in the thermometer.

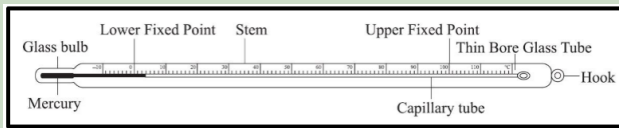
- **How to use the clinical thermometer?**

- Firstly, wash the thermometer with an antiseptic solution.
- Before taking the temperature the thermometer is given a few jerks to bring down the level of Mercury below 35o C.
- Then the thermometer is placed beneath the tongue for about a minute.
- Then you can take it out and observe the temperature reading on the thermometer.

- **What precautions should be taken while using a clinical thermometer?**

- Wash the thermometer before and after using it.
- Make sure the temperature of the thermometer is below 35o C before taking the temperature.
- Keep the thermometer straight in order to see the Mercury level precisely.
- It should always be held with care or it can break down. You should not touch the bulb of the thermometer at all.

- **Laboratory thermometer**



- **Figure 2 Laboratory thermometer**
- The laboratory thermometer is used to find out the temperature of the other objects such as water rather than human body temperature. It can measure the temperature from -10°C to 110°C .
- **What precautions should be taken when using a laboratory thermometer?**



- **Figure 3 Using Laboratory thermometer**

- You should always follow the same precautions as that of the clinical thermometer.
- You should always hold the laboratory thermometer in a straight upright position without titling it.
- The bulb of the thermometer should never touch the surface of the container in which the substance is kept.
- However, the bulb of the thermometer should be completely immersed in the substance so that it covers the bulb from all the sides.