

B. B. S. S. Sec. School
Class - VIIth Sub - Science
Lesson - 4 Heat

Heat →

Heat is a form of energy which causes the sensation of hotness and coldness.

Temperature → The degree of hotness and coldness of an object.

Thermometer → The instrument which helps us to measure temperature of an object is called a thermometer.

Temperature Scales : There are three temperature scales. These are:

(i) Celsius Scale :-

Freezing point = 0°C
boiling point = 100°C

(ii) Fahrenheit Scale :-

Freezing point = 32°F
boiling point = 212°F

(iii) Kelvin Scale :-

Freezing point = 273 K
boiling point = 373 K

* Conversion of Kelvin to Celsius :

$$C = K - 273$$

* Conversion of Fahrenheit to Celsius :-

$$C = \frac{5}{9} (F - 32)$$

* Conversion of Celsius to Fahrenheit:

$$F = \left(\frac{9}{5} \times C\right) + 32$$

Kind Of Thermometers →

1. Laboratory Thermometer :- It is also called Celsius thermometer. A laboratory thermometer is generally used to measure temperatures ranging from 0°C to 100°C . It is used for measuring temperatures other than the human body temperature.

2. Clinical Thermometer :- A clinical thermometer is used to measure the body temperature of human beings and animals. A clinical thermometer has its range of measurable temperature from 35°C to 42°C . The normal average human body temperature of a healthy person is 37°C . A clinical thermometer does not contain marking above 42°C because it's used to measure human temperature and human's temperature never exceeds 42°C .

3. Maximum and Minimum Thermometer → It is used to measure the daily temperature to prepare weather reports.

(2)

4. Digital Thermometer →

In digital thermometer, reading of temperature is displayed digitally as in digital watches. It has plastic body with display screen. This is safer because no mercury is used in this.

* Assignment *

- * 1. Answer the following question in one word
- i) which device is used to measure temperature?
 - ii) what is the boiling point of water in celsius?
 - iii) what is the temperature of a normal human body?
 - iv) which liquid is used in clinical thermometer?

* 2. Answer the following questions.

1. which of the two - celsius or fahrenheit, scale is more convenient to use?
2. what is meant by temperature scale? Describe celsius scale.
3. Describe a clinical thermometer. why does not a clinical thermometer contain markings above 42°C ?
4. Write two similarities and two differences between a laboratory thermometer and a clinical thermometer.

(3)