

Physics OC homework

1) What is heat? state its SI unit.

Ans Heat is a form of energy which flows from a hot body to a cold body when kept in contact. SI unit of heat is Joule (J)

2) What is meant by the term temperature?

Ans Temperature is a quantity which tells us the degree of hotness or coldness of a body.

3) State the 3 units of temperature.

Ans 3 units of temperature are - degree Celsius, degree Fahrenheit and Kelvin. Their symbols are °C, °F and K respectively.

4) Name the instrument used to measure the temperature of a body.

Ans Thermometer is an instrument used to measure the temperature of a body.

5) Name 2 scales of temperature. How are they interrelated?

Ans two scales are Celsius and Fahrenheit scale.

Relationship \rightarrow Ice point $- 0^{\circ}\text{C} = 32^{\circ}\text{F}$

Steam

Point $- 100^{\circ}\text{C} = 212^{\circ}\text{F}$

100 divisions on Celsius scale = 180 divisions on Fahrenheit scale

1 div on °C = $\frac{180}{100}$ div on °F scale

$\Rightarrow \frac{9}{5}$

$\text{°F} = \frac{9}{5} \text{°C} + 32$

$$\Rightarrow ^\circ\text{F} - 32 = ^\circ\text{C} \times \frac{9}{5}$$

$$\Rightarrow ^\circ\text{C} = \frac{5}{9} (^\circ\text{F} - 32)$$

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$$\frac{^\circ\text{C}}{5} = \frac{^\circ\text{F} - 32}{9}$$

- ⑥ How is the size of a degree, on a Celsius scale, defined?
- Ans On this scale, ice point is marked as 0°C and steam point as 100°C .

The interval between ice point and steam point is divided into one hundred equal parts. Each of them is called as 1°C .

- ⑦ How is the size of a degree defined on a Fahrenheit scale?

Ans On this scale, ice point is 32°F and steam point as 212°F .

The interval between both of them is divided into ~~100~~ one hundred and eighty ~~equal~~ equal divisions. Each are called as 1°F .