

Class - IX (SCIENCE)

Worksheet - 2 (Chapter - 1)

Topic-Temperature Scales

Temperature -The degree of measure of hotness or coldness of an object is called as temperature.

Temperature Scales - It is a way to measure the temperature quantitatively.

Kinds of Temperature Scales - There are three kinds of scales used.They are-

1)Fahrenheit Scale - It was discovered by a German physicist Daniel Gabriel Fahrenheit.It is a scale divided into 180 equal parts showing 32 as the freezing point of water and 212 as the boiling point of water.It is represented by the symbol $^{\circ}\text{F}$.

2)Celsius/Centigrade Scale - It was discovered by Swedish astronomer Anders Celsius.It is a scale divided into 100 equal parts showing 0(zero) for the freezing point of water and 100 for the boiling point of water.It is represented by a symbol $^{\circ}\text{C}$.

3)Kelvin/Absolute Scale - It was discovered by a British Physicist William Thomson Boron Kelvin.It is the SI unit of measuring temperature.It is a scale that uses 273.15 as freezing point of water and 373.15K as boiling point of water.

Absolute Zero - The coldest possible temperature at which there is total absence of heat or at which motion of all molecules would cease.For kelvin scale it is 0K, for celsius scale it is -273.15°C , for farheinheit scale it is -459.67°F .

Conversions of various Scales :

$$C = 5/9(F - 32) \text{ ----- Conversion from } ^{\circ}\text{F to } ^{\circ}\text{C}$$

$$^{\circ}\text{F} = 9/5 (^{\circ}\text{C}) + 32 \text{ -----Conversion from } ^{\circ}\text{C to } ^{\circ}\text{F}$$

$$C = K - 273 \text{ ----- Conversion from K to } ^{\circ}\text{C}$$

$$K = ^{\circ}\text{C} + 273 \text{ ----- Conversion from } ^{\circ}\text{C to K}$$

$$K = 5/9 (^{\circ}\text{F} - 32) + 273 \text{ ---- Conversion from } ^{\circ}\text{F to K}$$

$$^{\circ}\text{F} = 9/5 (K - 273) + 32 \text{ ----- Conversion from K to } ^{\circ}\text{F}$$

Assignment :

1)Convert the temperature from $^{\circ}\text{Celsius}$ to Kelvin.

i)40 $^{\circ}\text{C}$ ii) 80 $^{\circ}\text{C}$ iii)25 $^{\circ}\text{C}$ iv) 45 $^{\circ}\text{C}$ v) 0 $^{\circ}\text{C}$ vi)90 $^{\circ}\text{C}$ vii)65 $^{\circ}\text{C}$

viii)75 $^{\circ}\text{C}$ ix)50 $^{\circ}\text{C}$ x)85 $^{\circ}\text{C}$ xi)35 $^{\circ}\text{C}$ xii) 60 $^{\circ}\text{C}$ xiii) 94 $^{\circ}\text{C}$ xiv)100 $^{\circ}\text{C}$

xv) 30 °C

2) Convert the temperature from kelvin to celsius scale

i) 375 K ii) 302 K iii) 300 K iv) 290 K v) 570 K vi) 350 K vii) 285 K
viii) 345 k

ix) 310 K x) 280 K xi) 45 K xii) 290 K xiii) 313 K xiv) 60 K xv) 65 K