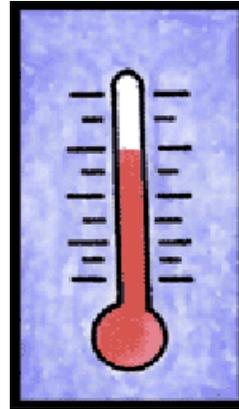


# Temperature Scales

*Temperature is the level of heat in a gas, liquid, or solid. Three scales are commonly used for measuring temperature. The Celsius and Fahrenheit scales are the most common. The Kelvin scale is primarily used in scientific experiments.*



## Celsius Scale

The Celsius scale was invented in 1742 by the Swedish astronomer, Anders Celsius. This scale divides the range of temperature between the freezing and boiling temperatures of water into 100 equal parts. You will sometimes find this scale identified as the centigrade scale. Temperatures on the Celsius scale are known as degree Celsius ( $^{\circ}\text{C}$ ).

## Fahrenheit Scale

The Fahrenheit scale was established by the German-Dutch physicist, Gabriel Daniel Fahrenheit, in 1724. While many countries now use the Celsius scale, the Fahrenheit scale is widely used in the United States. It divides the difference between the melting and boiling points of water into 180 equal intervals. Temperatures on the Fahrenheit scale are known as degree Fahrenheit ( $^{\circ}\text{F}$ ).

## Kelvin Scale

The Kelvin scale is named after William Thompson Kelvin, a British physicist who devised it in 1848. It extends the Celsius scale down to absolute zero, a hypothetical temperature characterized by a complete absence of heat energy. Temperatures on this scale are called Kelvins (K).

## Converting Temperatures

It is sometimes necessary to convert temperature from one scale to another. Here is how to do this.

1. To convert from  $^{\circ}\text{C}$  to  $^{\circ}\text{F}$ , use the formula:  $^{\circ}\text{F} = ^{\circ}\text{C} \times 1.8 + 32$ .
2. To convert from  $^{\circ}\text{F}$  to  $^{\circ}\text{C}$ , use the formula:  $^{\circ}\text{C} = (^{\circ}\text{F} - 32) \div 1.8$ .
3. To convert from K to  $^{\circ}\text{C}$ , use the formula:  $^{\circ}\text{C} = \text{K} - 273.15$
4. To convert from  $^{\circ}\text{C}$  to K, use the formula:  $\text{K} = ^{\circ}\text{C} + 273.15$ .
5. To convert from  $^{\circ}\text{F}$  to K, use the formula:  $\text{K} = 5/9 (^{\circ}\text{F} - 32) + 273.15$ .
6. To convert from K to  $^{\circ}\text{F}$ , use the formula:  $^{\circ}\text{F} = 1.8(\text{K} - 273.15) + 32$ .



## Comparing Temperatures

Here are some common comparisons between temperatures on the Celsius and Fahrenheit scales.

TEMPERATURE	°C	°F
Boiling point of water	100	212
Freezing point of water	0	32
Average human body temperature	37	98.6
Comfortable room temperature	20 to 25	68 to 77

You probably refer to temperature every day. Be sure about the scale you are using.