

## Using Temperature Scales

### Convert between degrees Fahrenheit and degrees Celsius.

Do you remember the last time you had your temperature taken? Your body temperature is usually about 98.6°F. This temperature is in degrees Fahrenheit (°F). The Fahrenheit temperature scale is a common temperature scale. In science class, however, a scale known as the Celsius (°C) scale is used. Temperatures in one scale can be mathematically converted to the other system using one of the equations below.

EQUATIONS: Conversion from Fahrenheit to Celsius:  $\frac{5}{9} \times (^{\circ}\text{F} - 32) = ^{\circ}\text{C}$

Conversion from Celsius to Fahrenheit:  $\frac{9}{5} \times ^{\circ}\text{C} + 32 = ^{\circ}\text{F}$

SAMPLE PROBLEMS:

**A.** Convert 59°F to degrees Celsius.

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

$$^{\circ}\text{C} = \frac{5}{9} \times (59 - 32)$$

$$^{\circ}\text{C} = \frac{5}{9} \times 27$$

$$^{\circ}\text{C} = 15^{\circ}\text{C}$$

**B.** Convert 112°C to degrees Fahrenheit.

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

$$^{\circ}\text{F} = \frac{9}{5} \times 112 + 32$$

$$^{\circ}\text{F} = 201\frac{3}{5} + 32$$

$$^{\circ}\text{F} = 233\frac{3}{5}^{\circ}\text{F}$$

### Turn Up the Temperature!

**1.** Convert the following temperatures from degrees Fahrenheit to degrees Celsius:

**a.** 98.6°F \_\_\_\_\_

**b.** 482°F \_\_\_\_\_

**c.** -4°F \_\_\_\_\_

**2.** Convert the following temperatures from degrees Celsius to degrees Fahrenheit:

**a.** 24°C \_\_\_\_\_

**b.** 17°C \_\_\_\_\_

**c.** 0°C \_\_\_\_\_

### Challenge Yourself!

**3.** Convert  $2.7 \times 10^4$ °C to degrees Fahrenheit. \_\_\_\_\_