



LINEAR UNITS OF MEASURE: THE ENGLISH SYSTEM

- 12 inches (in.) = 1 foot (ft)
- 3 feet = 1 yard (yd)
- 36 inches = 1 yard
- 5280 feet = 1 mile (mi)

SQUARE UNITS OF MEASURE: THE ENGLISH SYSTEM

- 1 square foot (ft²) = 144 square inches (in.²)
- 1 square yard (yd²) = 9 square feet (ft²)
- 1 acre (a) = 43,560 ft² or 4840 yd²
- 1 square mile (mi²) = 640 acres

TABLE 9.3 English and Metric Equivalents

1 inch (in.)	= 2.54 centimeters (cm)
1 foot (ft)	= 30.48 centimeters (cm)
1 yard (yd)	≈ 0.9 meter (m)
1 mile (mi)	≈ 1.6 kilometers (km)

TABLE 9.4 English and Metric Equivalents for Area

1 square inch (in. ²)	≈ 6.5 square centimeters (cm ²)
1 square foot (ft ²)	≈ 0.09 square meter (m ²)
1 square yard (yd ²)	≈ 0.8 square meter (m ²)
1 square mile (mi ²)	≈ 2.6 square kilometers (km ²)
1 acre	≈ 0.4 hectare (ha)

TABLE 9.8 English and Metric Equivalents for Capacity

1 teaspoon (tsp)	≈ 5 milliliters (mL)
1 tablespoon (tbsp)	≈ 15 milliliters (mL)
1 fluid ounce (fl oz)	≈ 30 milliliters (mL)
1 cup (c)	≈ 0.24 liter (L)
1 pint (pt)	≈ 0.47 liter (L)
1 quart (qt)	≈ 0.95 liter (L)
1 gallon (gal)	≈ 3.8 liters (L)

TABLE 9.11 Weight: English and Metric Equivalents

1 ounce (oz)	≈ 28 grams (g)
1 pound (lb)	≈ 0.45 kilogram (kg)
1 ton (T)	≈ 0.9 tonne (t)

TABLE 9.10 Volume and Weight of Water in the Metric System

Volume	=	Capacity	=	Weight
1 cm ³	=	1 mL	=	1 g
1 dm ³ = 1000 cm ³	=	1 L	=	1 kg
1 m ³	=	1 kL	=	1000 kg = 1 t

TABLE 9.5 English Units for Capacity

2 pints (pt) = 1 quart (qt)	
4 quarts = 1 gallon (gal)	
1 gallon = 128 fluid ounces (fl oz)	
1 cup (c) = 8 fluid ounces	
Volume in Cubic Units	Capacity
1 cubic yard	about 200 gallons
1 cubic foot	about 7.48 gallons
231 cubic inches	about 1 gallon

TABLE 9.7 Volume and Capacity in the Metric System

Volume in Cubic Units		Capacity
1 cm ³	=	1 mL
1 dm ³ = 1000 cm ³	=	1 L
1 m ³	=	1 kL

A milliliter is the capacity of a cube measuring 1 centimeter on each side.

A liter is the capacity of a cube measuring 10 centimeters on each side.

UNITS OF WEIGHT: THE ENGLISH SYSTEM

16 ounces (oz) = 1 pound (lb)

2000 pounds (lb) = 1 ton (T)

FROM CELSIUS TO FAHRENHEIT

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

FROM FAHRENHEIT TO CELSIUS

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

FROM CELSIUS TO KELVIN

$$K = C + 273.15$$

FROM KELVIN TO CELSIUS

$$C = K - 273.15$$